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ABSTRACT

Presented is a manual developed by the Manatee, Florida, program for gifted students which includes articles by leading thinkers, information on J. Guilford's structure of the intellect model, the importance of cognitive and affective balance, creative development, checklists, games, and other ideas for teachers of gifted students. Articles include the following titles and authors: "The Role of the Teacher of the Gifted" (E.P. Torrance), "Helping Children Know Themselves" (D. Sist), and "New Think" (E. DeBono). Offered are an explanation of Guilford's model and ten creativity lessons based on the model. The importance of affective and cognitive balance is considered in a section which includes F. Williams' model for implementing cognitive-affective behaviors in the classroom and associated teaching strategies and M. Seagoe's list of learning characteristics of gifted children. A major section provides suggestions for facilitating creativity and includes a checklist of teacher attitudes and goals, techniques of creative teaching, five lessons in stimulating creative talent, two simulation games, and ways to help children write creatively. Also provided is information on other checklists, guides, and offerings in the Manatee Gifted Program. Directions for such games as kalah and chess by notation are given as is a list of 65 ways for teachers to say "good for you". (DB)

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A HANDBOOK OF BRIGHT IDEAS:

FACILITATING GIFTEDNESS

MANATEE GIFTED PROGRAM, 1976

EC093036

CHILDREN LEARN WHAT THEY LIVE

If a child lives with criticism,
he learns to condemn.

If a child lives with hostility,
he learns to fight.

If a child lives with fear,
he learns to be apprehensive.

If a child lives with pity,
he learns to be sorry for
himself.

If a child lives with encouragement,

If a child lives with tolerance,
he learns to be patient.

If a child lives with praise,
he learns to be appreciative.

If a child lives with acceptance,
he learns to love.

If a child lives with approval,
he learns to like himself.

If a child lives with recognition,
he learns to have goals.

If a child lives with fairness,
he learns what justice is.

If a child lives with honesty,
he learns what truth is.

If a child lives with security,
he learns to have faith in
himself.

If a child lives with friendliness
he learns that the world is a
nice place.

A HANDBOOK
OF
BRIGHT IDEAS:
FACILITATING GIFTEDNESS

The Florida State Board Regulations define the gifted as: One who has superior intellectual, developmental or outstanding talent and is capable of high performance including those with demonstrated achievement or potential ability. The mental development of a gifted student is greater than two standard deviations above the mean on the Wechsler Intelligence Scale or the Stanford-Binet LM.

FOREWARD

This collection contains an assortment of bright ideas recommended by some of the nations leaders in gifted education. EDUCATION OF THE GIFTED IS WHATEVER THE BEST IN TEACHING IS. It is an attitude toward teaching in general and toward students in particular. It is concerned not only with a taxonomy of cognitive learnings but with the very important taxonomy of affective learnings. This collection focuses primarily on the affective domain of education. This handbook together with its companion, The Intellectually Gifted Student: His Nature and Needs is representative of the creative thinking of the nation's leading professionals in the field of gifted education.

Edited and Presented By
Betty S. Cherry, Ed. D.
The Manatee Gifted Program, 1976

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SECTION A

Thinking and Knowing

Three Articles by
Leading Thinkers

I. The Role of the Teacher of the Gifted by E. Paul Torrance

II. Helping Children Know Themselves by Dorothy Sisk

III. Edward DeBono's
  - New Think
  - Visual Images to Stimulate Lateral Thinking
  - The Searching Mind

THE ROLE OF THE TEACHER OF THE GIFTED

E. Paul Torrance

Implicit in any description of the role of the teacher of gifted children is the assumption that these children are at least being acknowledged as an exceptional group deserving of specially designed programs.

Until recently, the standard answer of educators to the problems presented by gifted children has been enrichment within the regular classroom. Lately, however, there has been a trend toward more extensive programs, such as grouping and acceleration, as research has indicated that the supposedly harmful effects of these measures are limited while the major effects are positive.

Even today many would argue the merits of exceptional treatment for the gifted, since, as a group, they generally get along fairly well without special treatment. There is also the feeling among some educators that there is something undemocratic about giving an elite group special advantages. How often we hear classroom teachers say, "I don't have to give my fast group much time. They do well enough on their own. I like to spend as much time as I can with the slow children who really need my help."

This lack of appreciation of the needs of gifted children has, in the past, aroused no outcry of sympathy for the gifted child, no concern over the "undemocratic" practice of giving the slow child more attention and educational opportunity than the gifted. Indeed, our society has been far more sympathetic to providing special facilities for the handicapped and mentally retarded than for the gifted and mentally superior. Gifted children in general do not arouse sympathy. On the contrary, they often arouse resentment. Teachers may feel threatened by the gifted child because he is apt to be extremely perceptive and outspokenly critical. Thus because of his mental superiority the gifted child has often been neglected, occasionally rejected, and has generally been expected to shift for himself in the educational setting.

Even where his unique needs have been recognized and enrichment has been a policy, the gifted child has not fared as well as he might because of the factors which severely limit the classroom teacher's ability to provide the kinds of enrichment needed: (1) the wide range of ability the teacher must deal with in the heterogeneous classroom, (2) the limited content background of many teachers, (3) limited knowledge of the needs of gifted children in terms of learning psychology, (4) the limitations of time in terms of the amount of preparation necessary to plan enrichment over and above the regular classroom work.

It takes an inordinately talented and dedicated teacher to provide appropriate learning experiences for three ability groups, not to mention providing for children who are functioning above any of them. With all due respect to the teacher profession, this kind of teacher is the exception rather than the rule. There is little point, however, in advising the already overworked and harried teacher to be more creative, more flexible, more dedicated. The answer, we think, is to provide the desired enrichment through special programs designed to meet special needs, with special teachers especially trained for the purpose.

Grouping and Acceleration

The teacher's role, of course, depends upon the type of administrative adjustment that is made for gifted children. These adjustments usually fall under two general headings, grouping and acceleration, or occasionally a combination of the two. Enrichment is not mentioned as a separate heading since it is a policy that is suggested for use in all settings. There are grouping practices which vary from ability grouping within the classroom, through part-time interclass grouping, to complete segregation of the gifted.

A few of the techniques of acceleration that are supported by research are: (1) early admission to kindergarten or first grade, (2) ungraded elementary programs in which the gifted move ahead as rapidly as they are able, and (3) honors classes and advanced placement programs at the high school level. Each type of adjustment has its advocates and advantages, but the method of adjustment chosen should be that most likely to benefit the gifted student in his particular school system. Small rural school systems would probably correctly choose a different type of administrative adjustment than the large city school systems for reasons which are obvious.

Whatever adjustment is made, it is the teacher who sets the environment for learning. It is he who creates the atmosphere which arouses interests, develops abilities, and motivates students to high achievement.

Traits of the Gifted Teacher

There is very little research indicating characteristics that discriminate between competent teachers of the gifted and any other teachers. Indeed, there is little research to indicate those characteristics which differentiate between good and poor teachers in general. The attributes most frequently cited as appropriate for teachers of the gifted, such as high intelligence, knowledge of content field, broad background of information in related fields, a knowledge of the psychology of learning, familiarity with good teaching methods, creativity, flexibility, and a democratic attitude are the same attributes as those desirable for any good teacher. Certainly the teacher of gifted children should have the aforementioned characteristics in abundance; but the role of the gifted teacher requires more.

By asking gifted students to describe their best teacher both Strang and Davis have come up with similar lists of traits which characterize good teachers. The lists include the following: sense of humor, knowledge of subject, firmness and fairness, encouragement of responsibility, understanding of children, and enjoyment of teaching.

It would seem that Bugelski's description of a good teacher (based on Mowrer's learning theory) as one who instills hope rather than fear in students is an apt one. According to Bugelski the job of the teacher is to arouse emotional reactions of hope (feeling good) in connection with the content he is attempting to teach. His personality and attitude have a drastic effect upon the students' perception of scholarship. If the teacher is grim, sarcastic, unfair, or irritable the content words of the subject he teaches will be related to unpleasant reactions and thus negative feelings as responses to scholarship. The teacher's job is to create positive reactions to scholarship, to make the student fall in love with the subject.

To be most effective the teacher should have a sincere desire to work with gifted children. A teacher who is impatient with slow learning children is not necessarily a good choice as a teacher of bright children. Since the mentally retarded and the mentally superior share an exceptional intellectual endowment their problems are sometimes surprisingly similar. The gifted need as much patience and understanding as slow learners. Because of increased needs for creativity and knowledge of subject matter on the part of the teacher, he may find that teaching gifted children is the most challenging assignment he has ever had.

Needless to say, the teacher must like gifted children, but more than this, he must understand them. It is the teacher's job to arouse and maintain a questioning attitude in his students. Any teacher who is authoritarian and cannot tolerate this inquisitive, questioning attitude in his students has no place in a classroom with gifted children.

Early Recognition of Ability

It is extremely important that the gifted child's ability be recognized early in his school career so that proper methods and materials can be utilized to challenge him. As Witty has stressed, "If a gifted child who already can read is required to follow routine textbook assignments and is forced to read highly repetitious and largely meaningless materials, he will often develop unfortunate attitudes and habits". Terman was even more forceful in stating his case for acceleration: "The exceptionally bright student kept with his age group finds little to challenge his intelligence, and all too often develops habits of laziness that later wreck his college career".

Since it is the teacher who comes in personal contact with all the children it is he who is most likely to identify the gifted children in his charge. For this reason it is most important that every teacher know the characteristics of gifted children as well as testing and measurement procedures used in screening and selection. The lack of school psychologists and guidance personnel places the burden of identification of children with exceptional learning abilities squarely upon the primary teacher.

Developing Latent Abilities

Once the gifted child is identified, it is the task of the teacher to judiciously manipulate the learning environment so that the child may develop his unique talents and abilities to the fullest extent. He must recognize the kinds of learning situations that are beneficial for the gifted child and the types of experiences appropriate for the development of his outstanding ability to conceptualize, generalize, create, initiate, relate, organize, and imagine. Nothing is less appealing to the gifted student than rote memory work and repetitive drill, especially when he already understands the processes involved. Methods that emphasize concepts and meanings seem more useful than those requiring memorization of facts.

This is not to suggest that skill instruction is not necessary. On the contrary, the mastery of foundation skills is of prime importance. Gifted children, however, can usually master the basic skills in much less time than the average child, and once they are mastered the child should not only be permitted but encouraged to move on as rapidly as possible to experiences which foster critical thinking and independent action.

The teacher should develop in the gifted student an understanding of the problem solving process and its application to independent study and research. A balance must be maintained between individual and group work. In spite of the heavy emphasis on social adjustment and group activities in the schools today, the teacher of the gifted must realize the need to foster independence of work and study. He must recognize that scholarship and creative endeavor is often a solitary activity. Ample time must be provided for the student to work alone if he so desires. At the same time it is important for him to learn to think creatively, critically, and objectively, and these abilities are often facilitated in group activities and discussions. The gifted teacher will balance group and individual work according to individual goals and needs.

Activities should also provide opportunities for examining and testing the validity of value systems. These inquisitive children are not likely to accept our values unless they can stand criticism and evaluation. Their superior logic makes them likely to identify the discrepancies between what we say we believe and what we do. The gifted child needs the opportunity to develop his own value system through exchange of ideas.

Teacher Must Be Informed

The limitations of time and space have allowed us to barely scratch the surface of the role of the teacher of the gifted. There is, however, one more aspect of the teacher's role that needs to be mentioned. The teacher of gifted children needs to be aware of the current issues in education for the gifted and informed as to the research findings relevant to these issues.

Many misconceptions exist, not only regarding the effects of grouping and acceleration on gifted children, but about gifted children themselves. Who has not heard the comments that highly gifted children are somehow strange, poorly adjusted, solitary figures who have poor health, and lack physical ability? It is not enough for the teacher to know that research evidence indicates just the opposite, that the gifted child is, on the average, better adjusted, healthier, and better endowed physically than the average child. He must communicate this knowledge to the community at large. He must dispel the misconceptions about gifted children from the minds of other teachers, administrators, and parents.

We simply cannot any longer afford to squander the abilities and talents of our gifted youth. They will be the hope of our tomorrows only as we educate them appropriately today.

HELPING CHILDREN KNOW THEMSELVES

Dorothy A. Sisk
University of South Florida

More and more educators are beginning to realize the ever increasing importance of self concept; or how one feels about himself, his strengths, his weaknesses, and his attitudes toward these. One's self picture can open new vistas, or it can keep an ever tight door between the individual and new opportunities.

We now know these self pictures are formed quite early. What can teachers of young children do to increase or help to insure the development of more positive self pictures? This problem is acute to all teachers; but it is even more acute with teachers of bright or gifted children, who have potential which may not be realized as a result of inadequate self pictures.

First, the teacher needs to realize the importance of the interaction between the growing self picture and the picture that the "significant others" such as parents and the peer group reflect to him (Sullivan, 1947 and Combs, 1962).

The young child feels, if indeed he does not understand, the acceptance or rejection of his acts. This acceptance or rejection of his acts he may interpret to be "him" - the acceptance or rejection of him. Therefore, we must convey a feeling of "I accept you." " I may not accept your acts, but I do accept you." One simple way of doing this, which is often overlooked, is to tell the child, "I do not like what you have done, but I care very much for you."

More specifically, the teacher may encourage the gifted child by allowing him to have many opportunities to explore. Exploring and manipulating objects increases his already present natural curiosity. Too many complicated toys are not good for the young child. In fact, they might well discourage creativity. How creative can a child be with a truck that runs, backs up, toots, lights up, and even smokes? Instead the parent should make available lots of boxes, paper, crayons, paints, tapes, scraps of wood, bits of cloth, and a place to pound, hammer, and smear!

Another important item the teacher should provide is to give the gifted or bright child "time." Your time. Make time in which you can watch him in play; discuss "things" with him (those topics he wants to talk about); and pound, hammer, and smear with him. Show him that you are interested in his activities and interests.

Talk to the bright child. Talk to him and with him, in such a manner that he feels that you value his opinion, his interaction and his talk.

Take walks with the child. These could be called "browsing walks" as they should be times in which you and he stop; pick up and examine flowers, pebbles, dead insects, twigs, and all of the other fascinating items in a child's world. If you can't go outside--do the same thing in the house. It is amazing the fascinating things one sees when he only bothers to look. In short, you will be helping the child to become more sensitive to his environment.

Give him freedom. Allow him to go ahead and take chances. The child needs freedom and encouragement to try new ideas and methods of "doing." When he fails, be there to steady him, and to give the gentle nudge that says--"try again!"

Last of all, the teacher should be an example. Have lots of books and read to the child. Read to yourself! This will indicate that you too find reading enjoyable and will go a long way in encouraging the child to see books not only as a source of information, but also a source of great pleasure. Grow yourself in every way that you are able. This can be a most exciting time of your life, for as you are guiding the child, and in a sense helping to mold his life, you can be molding a new life for yourself. It can be a time in which you become more alive to your environment and its challenges, and in a similar manner you are encouraging the gifted child to become equally alive to his environment and its challenge... a first step which is most important to the full realization of his potential use of his ability.

****

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Combs, A. W. Perceiving, Behaving and Becoming. Association for Supervision and Curriculum Development, 1962 Yearbook.

Sullivan, H. S. Conceptions of Modern Psychiatry. Washington, D. C.; William Alanson White Psychiatric Foundation, 1947.

NEW THINK

An exciting Concept for Developing Productive Thinking in Gifted Students

One of the most creative presentations of the techniques for developing creative, productive thinking is that of Edward de Bono. His theory of lateral thinking, or seeing things in a way which no one else does is similar to Guilford's divergent thinking component. Using thirty-four illustrative figures, de Bono shows the many ways for visually considering a problem.

New Think has to do with breaking out of the old,self-perpetuating patterns and generating new ways of looking at things.

The first step is to appreciate the need for lateral thinking and to recognize that it is fundamentally different from logical thinking. Lateral thinking is not only concerned with problem-solving: it has to do with new ways of looking at things and new ideas of every sort. Vertical thinking follows the most obvious line, proceeding straight up or down. Orthodox education usually does nothing to encourage lateral thinking and positively inhibits one with the need to conform one's way through the successive examination hoops. Lateral thinking is a matter of awareness and practice - not revelation.

Lateral thinking can be considered under four principles:

1. Recognition of dominant or polarizing ideas.
2. The search for different ways of looking at things.
3. A relaxation of the rigid control of vertical thinking.
4. The use of chance.

The simple visual situations pictured on four succeeding pages are intended to give a greater reality to the idea of Lateral Thinking. Each of the figures was adequate in thinking about the whole. A very simple change in the way something is looked at can have profound effects. The visual situations or figures show that the parts were deliberately extracted from the whole situation and then fitted together by means of fixed relationships to re-create the whole. The choice of the parts into which the whole is dissolved is dictated by the familiarity, convenience, and the availability of simple relationships with which to recombine them. The fluidity of description is maintained only so long as the parts are not given names. The availability of words and names fixes the way a particular situation can be looked at.

One technique for avoiding the rigidity of words is to think in terms of visual images and not use words at all. It is perfectly possible to think coherently in this way and difficulty only arises when it is necessary to express what has been thought.

The visual language of thought makes use of lines, diagrams, colors, graphs, and many other devices to illustrate relationship that would be very cumbersome to describe in ordinary language. Such visual images alter shape easily under the influence of dynamic processes and it is also possible to show the past , present and future effects of a process all at the same time.

Another technique is to break the parts down into still smaller parts and then recombine these smaller units to form larger novel units.

Sometimes a situation is a problem because it is looked at in a certain way. Looked at in another way, the right course of action may be so obvious that the problem no longer exists. If everything seems to be proceeding smoothly and adequately, progress may be impossible because there is no problem which can be used as a step to improvement.

Problems are the jolts that shift things out of the smooth rut of mere adequacy. The most difficult problem often lies in the formulation of problems. It requires a great deal of lateral thinking to realize that there are problems which have not been recognized.

When are adequacy, complacency and absence of problems merely other names for inadequacy and lack of imagination? The usual answer is to accept something as adequate until new information proves it to be inadequate.

The search for alternative ways of looking at things is not natural. The natural tendency of the mind is to become impressed by the most probable interpretation and then to proceed from that.

One way of approach is to predetermine the number of ways in which any situation can be looked at -3,5,or more. Each problem that is encountered is then deliberately looked at in this number of ways.

Another technique is to turn things upside down deliberately by consciously reversing some relationship.

Still another technique is to transfer the relationships of the situation to another more easily handled situation.

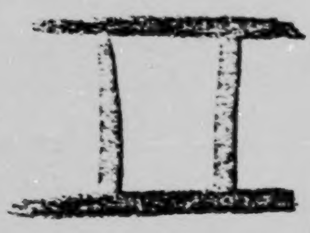
One more technique is deliberately to shift emphasis from one part of a problem to another.

Another technique for exciting new ideas is to expose oneself deliberately to a multitude of stimulants by wandering around a place that is full of things which would not be deliberately sought out - such as in a general store, exhibition, library, flea market. It is a junk-collecting attitude: anything that catches the attention for whatever reason is picked out. All the time in the back of the mind is the problem for which the new idea is required.

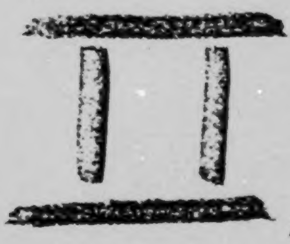
Scientists are fond of using the excuse of serendipity to obtain support for work which does not seem to have an immediate practical application. The idea is that in the course of their search for something they may stumble across something quite different and of great value. Ideally the mind should be allowed to accept information haphazardly from any source - it is not sorted or filed but is allowed free interaction. The mind should become an open house to information. However there seems to be only one way out of the possible confusion involved there by making the field of interest smaller and smaller through increasing specialization.

Students can be trained in the use of de Bono's creative techniques of visual thinking and lateral thinking. The gifted student in particular will be able to internalize the concept of lateral thinking and with practice, it will become an automatic method of dealing with problems, with scientific research, with the system of inquiry learning.

DeBONO'S VISUAL IMAGES TO STIMULATE LATERAL (CREATIVE) THINKING


1

Single perception
of the whole.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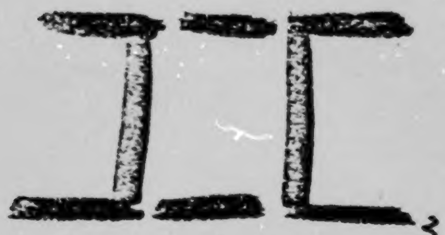
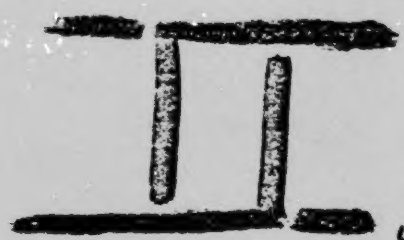
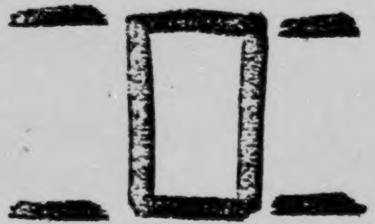
Mental division of
the whole.


3

Dividing the problem into
familiar parts.


4

L pieces form rectangle
Combining familiar
elements.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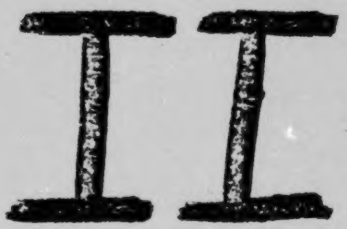
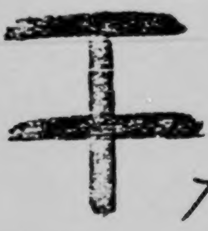
Balance of the familiar
parts to aid in the re-
thinking of a problem.
The pieces created begin
to exist on their own.


6

"I" pieces or girder sections-
certain relationships begin to
emerge from the familiar parts.
Arbitrary division: analysis
into component elements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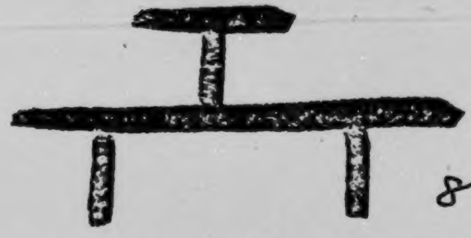
"T" Units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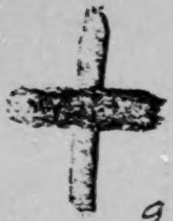
Do we deliberately try to reinterpret in
the light of new information matters
that already have an adequate explanation?

DeBONO'S VISUAL IMAGES TO STIMULATE LATERAL (CREATIVE) THINKING



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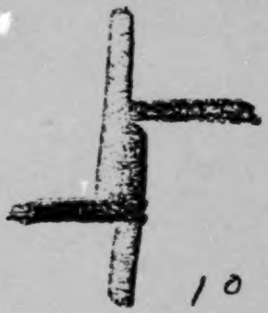

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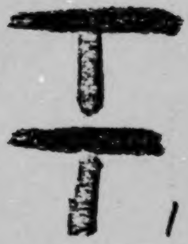
By dividing a whole problem into smaller "T" units, new information, new relationship, new interpretations begin to emerge.

The more complex the unit of division the simpler the relationships between units and the simpler the units the more complicated the relationships.



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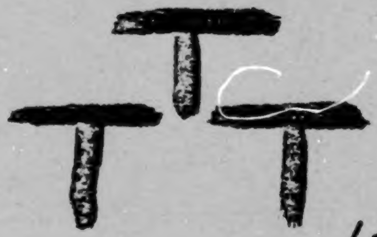

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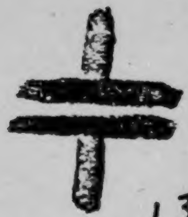

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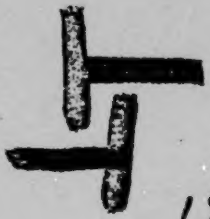
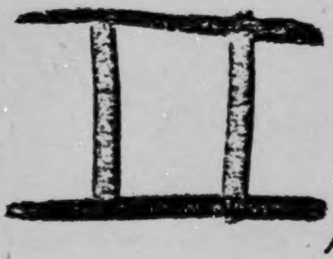


14

Reinterpretation of the original figure after having been broken into "T" units.



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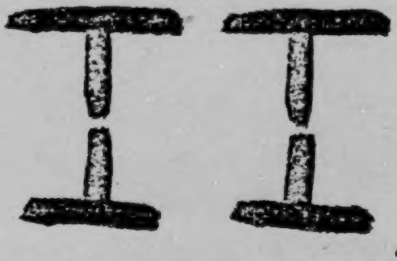
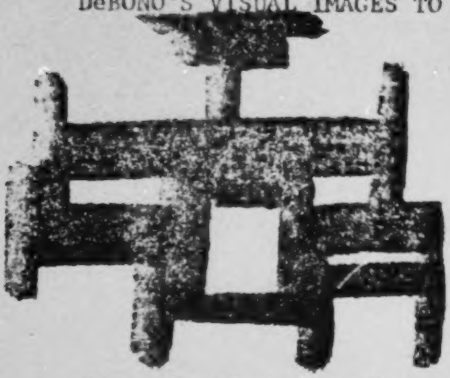


16

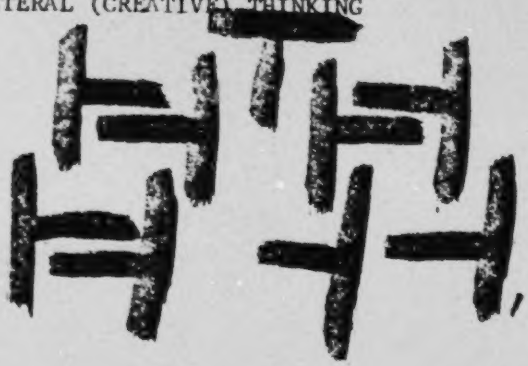
Its (T unit) constant use builds up a repertoire of different relationships.

DeBONO'S VISUAL IMAGES TO STIMULATE LATERAL (CREATIVE) THINKING



17

"a complex situation"



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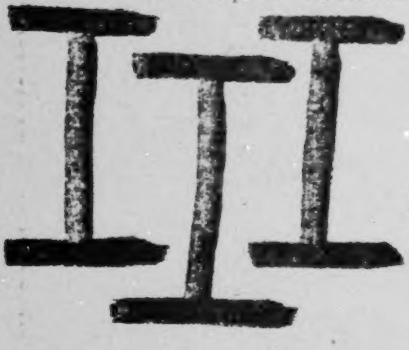
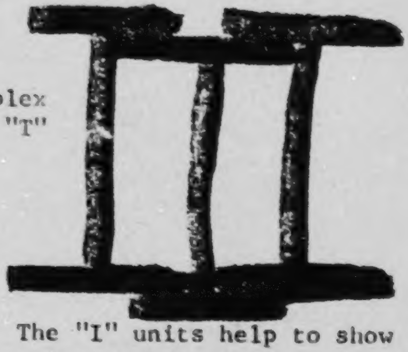


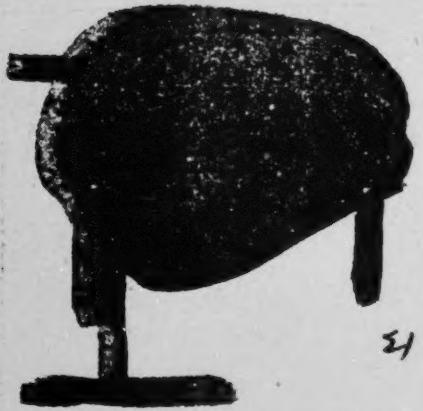
19

The successful division of complex situations into "I" groups.



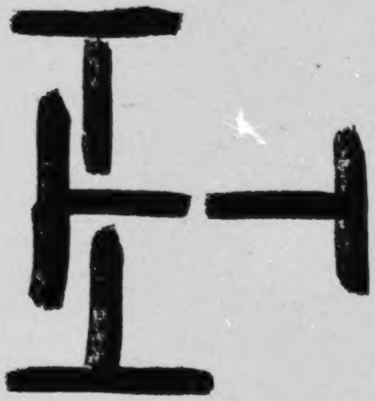
20

The "I" units help to show relationships.



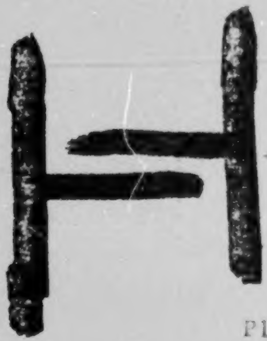
21

*Difficult situation in which part is obscure and cannot be examined.



22

Hypothetical guess of obscured parts in #21.



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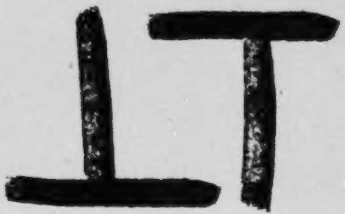
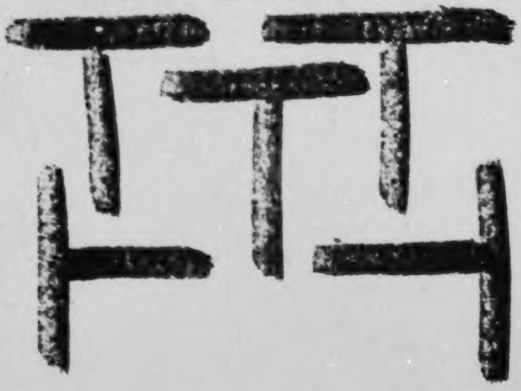


24

Playing with the familiar figures is not directed to any end, yet it can be useful as in #23 - #28

*Whatever the reason for an obscure or inaccessible part of the problem, an attempt must be made to understand the whole situation by means of careful examination of as much of it as can be examined. An educated guess or hypothesis may explain an inaccessible portion.

DeBONO'S VISUAL IMAGES TO STIMULATE LATERAL (CREATIVE) THINKING



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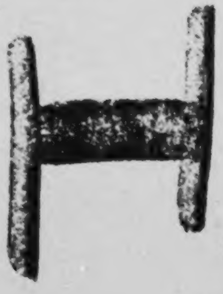

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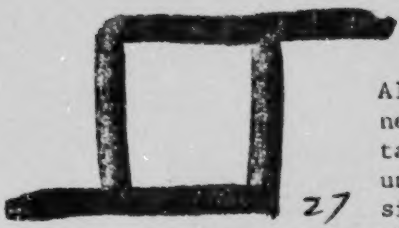

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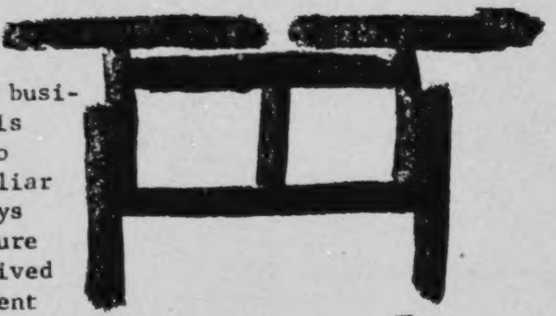
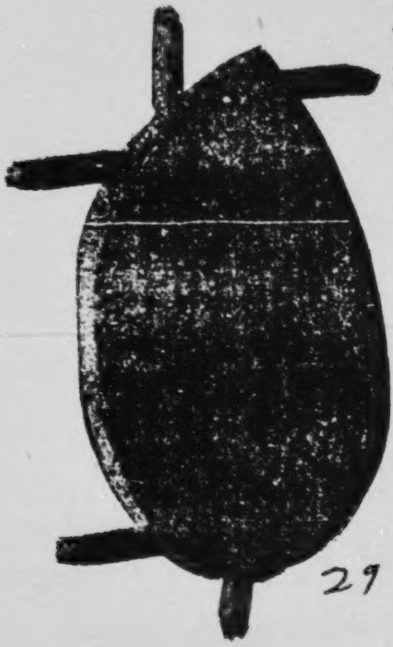


28

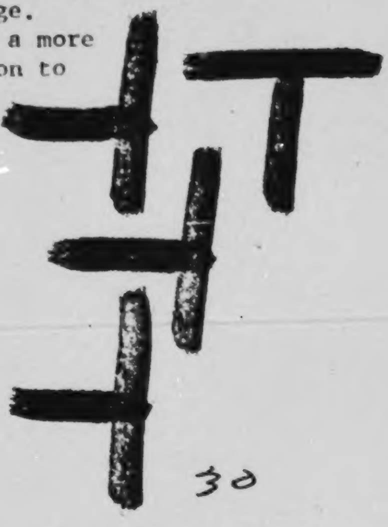
Almost the entire business of thinking is taken up trying to understand unfamiliar situations. Always there is some figure which must be arrived at by an arrangement of familiar figures.

By thinking of many possible combinations of the familiar parts of the whole, new solutions will emerge. There is always a more adequate solution to be achieved.



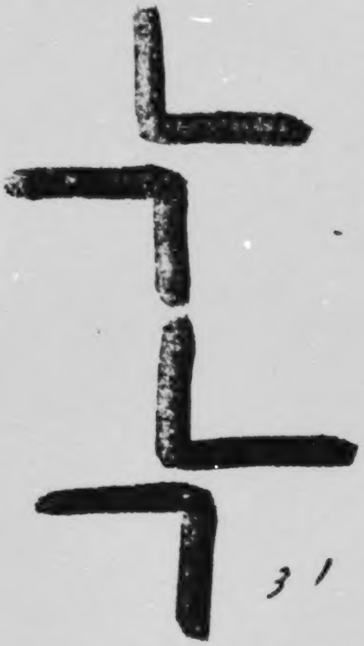
29

Situation hidden by a cloud of obscurity.
The actual figure obscured is made up of L units not T units which have become familiar.



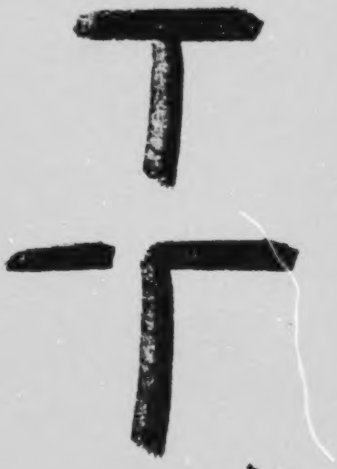
30

A near approximation or hypothesis concerning the obscured figure #29.



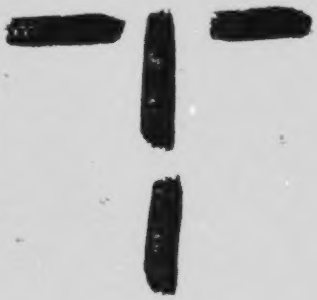
31

The actual figure obscured in #29 is made up of "L" units not "T" units which have become familiar.



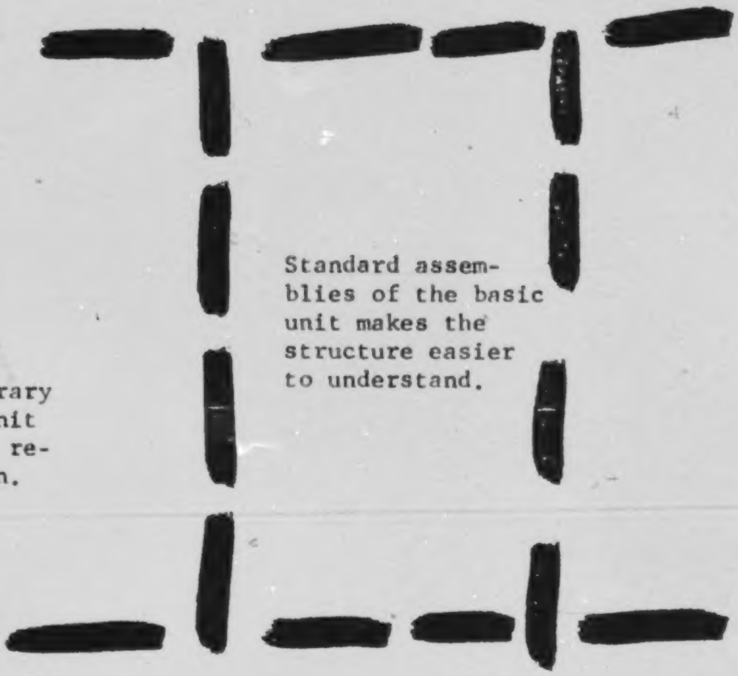
32

The "L" unit was implicit in the "T" unit.



33

The "T" unit will always be an arbitrary unit of convenience. A convenient unit into which unfamiliar figures can be resolved for the purpose of description.



Standard assemblies of the basic unit makes the structure easier to understand.

34

It is disturbing to think how many situations are incompletely understood because attempts at explanation persist in using well-tried familiar patterns which ought themselves to be re-examined.

THE SEARCHING MIND

(By Edward DeBono)

How many people will have a single new idea in the course of their lives? How many would be capable of inventing the wheel if it had not been invented? Some people always seem to be having new ideas, while others of equal intelligence never do.

Since Aristotle, logical thinking has been exalted as the one effective way in which to use the mind. Yet the very elusiveness of new ideas indicates that they do not necessarily come about as a result of logical thought processes. Some of us are aware of another sort of thinking that is most easily recognized when it leads to those surprisingly simple ideas that are obvious only after they have come about.

Let's take a look at this sort of thinking, which is quite distinct from logic and often more useful in generating new ideas. I use the term lateral thinking to describe this other sort of thinking and the term vertical thinking to denote the conventional logical process. The latter is like digging one hole deeper and deeper; the former requires abandoning the hole and striking off to the sidelines to dig numerous experimental holes. Because the process of education is usually effective and because education is designed to make people appreciate the holes their betters have dug for them, hole hopping is rare.

Lateral thinking is easiest to appreciate when seen in action, as in the following situation:

A merchant owes a huge sum of money to an old and ugly moneylender. The moneylender fancies the merchant's beautiful young daughter and proposes a bargain. He will put a black pebble and a white pebble into an empty moneybag, and then the girl will draw out one of the pebbles. If she draws out the black pebble, she will become his wife and her father's debt will be cancelled. If she draws the white pebble, she will stay with her father and his debt will still be cancelled. But if she refuses to draw a pebble, her father will be thrown in jail.

When the merchant and his daughter reluctantly agree, the moneylender stoops down and picks up two pebbles from the pebbly path on which they are standing. The girl, sharp-eyed with fright, sees him pick up two black pebbles and put them in the bag, which he then holds out to her. What should she do?

If you were the girl, what would you do? How would you try to solve the problem? Vertical thinkers are concerned with the fact that the girl must take out a pebble; lateral thinkers become concerned with the pebble that will be left in the bag.

The girl in the story reaches into the bag and draws out a pebble without looking at it. She fumbles and drops it on the path exclaiming, "How clumsy of me! But you can tell which pebble I picked by the color of the one that's still in the bag."

An exactly parallel example is the three-card trick in which the cardsharp offers three cards face down and invites the player to pick out the queen. By sleight of hand maneuvering of the cards, the sharpie at first allows the player to win some money; then in the same way he makes it impossible for the player to find the queen. At this juncture, if the player could change his point of view, he would bet that the card he indicates is not the queen.

Another example concerns what you would do if you were in your car on a narrow road, confronted with a flock of sheep. The answer is to get out of the car, herd the sheep past the car, and then drive on. Many people would be stymied trying to get the car past the sheep rather than the sheep past the car.

Profound effects can come from a very simple change in the way one looks at something. One of the most effective discoveries of all time came about when Edward Jenner shifted his attention from why most people got smallpox to why dairymaids apparently did not. From the discovery that harmless cowpox gave protection against deadly smallpox came vaccination and the end of smallpox as a scourge in the western world.

In one of Sherlock Holmes's cases, Dr. Watson pointed out that a certain dog was of no importance to the case because it did not appear to have done anything. Holmes took the opposite point of view and maintained that the fact that the dog had done nothing was of the utmost significance, for it should have been expected to do something. On this basis he solved the case.

A shift from the obvious way of looking at something to a less obvious way may require no more than a shift of emphasis. This isn't especially difficult to do once you get into the habit of trying--but first you have to be interested in trying.

Our minds divide the continuity of the world around us into discrete units, and familiarity dictates the choice of the parts into which we dissolve the whole. Once these units of convenience acquire names, they are frozen and immutable. The rigidity of words is associated with the rigidity of classifications, and the latter leads to rigidity in the way we look at various things.

Those who can escape from this rigidity tend to produce new ideas much more often than those who cannot. A World War II story tells of a pilot who was flying a bomber home and began having difficulty with the controls. He discovered a leakage in the hydraulic system, but there was no fluid available to fill it up. In the end the crew was saved because someone thought of using urine to refill the system: a simple and apparently effective solution, but most people would never have thought of it because urine and hydraulic fluid are so far apart in name and classification.

A similar example is that of an unlit lane which was so narrow that cars entering it had to back out again. Few cars had back-up lights and most had great difficulty getting out without colliding with something. One day someone thought of using his directional signals, which flashed brightly at the rear of the car and intermittently lit up the road. This work very well. Presumably no one had thought of it before because directionals are named and classified as signals and not as back-up lights.

A useful technique for escaping from the fixed parts of a problem is to break the parts down into still smaller parts and then recombine these parts to form larger, novel units. With some effort and much practice, one can find many more ways of looking at a situation than just the most probable. If the situation presents a definite problem, the need for lateral thinking and new ideas is fairly easy to recognize; but in nonproblem situations, this need is harder to see. Any enterprise without problems has little chance of progress. Problems are the jolts that shift things out of the smooth rut of mere adequacy. The biggest problem may be that there is no apparent problem.

Toward the end of the last century, physicists were very pleased with themselves. Everything that needed explaining seemed to have been explained. Theories and measurements fitted neatly together. Tidying things up was all that remained to be done. Then along came Planck and Einstein, and it soon became obvious that physics had only just begun.

Einstein's creation of the theory of relativity is a perfect illustration of the fact that new ideas can come about without any new information at all. What Einstein did was to look at all the existing information that everyone else was content to fit into the Newtonian structure, and to put it together in a completely new way. The experiments confirming the theory came afterwards.

Too often we assume that no one has the right to doubt an explanation unless he can offer a better one. This is a most effective way of inhibiting new ideas. No way of looking at things is too sacred to be reconsidered. Though things may fit together and make sense, this does not preclude their being put together in a new way that makes even more sense. Every person has the right to doubt everything as often as he pleases, and the duty to do it at least once.

We underestimate the effect of the dominance of old and apparently adequate ideas. Like old and adequate cities, they come to polarize everything around them. All organization is based on them; all things are referred to them. Although we can make minor alterations on the outskirts, we find it impossible to change the whole structure radically and very difficult to shift the center of organization to a different place.

Sometimes the danger is not overawareness of an idea, but neglect of ways of looking at things that are blotted out by a dominant idea. The story of the jumping spider illustrates this in a macabre fashion. The schoolboy had an interesting theory: He maintained that spiders could hear with their legs and said that he could prove it.

He placed the spider in the middle of a table and said, "Jump!" The spider jumped. The boy repeated the demonstration. Then he cut off the spider's legs and put it back on the table. Again he said, "Jump!" But this time the spider remained quite still.

"See," said the boy, "you cut off a spider's legs, and he goes stone deaf."

Probably the best caricature of the vertical thinker who becomes dominated by an idea is provided by the man whose cat had a kitten. Tired of letting the original cat in and out, he had hit on the idea of cutting a hole in the door so the cat could come and go as it pleased without bothering him. As soon as the kitten arrived, the man at once cut a second, smaller hole in the door.

How does one escape from the influence of dominating ideas? A useful lateral thinking technique is to pick out quite deliberately, to define and even write down, the idea that seems to be dominating the situation. Once you have exposed an idea in this way, recognizing and therefore avoiding its polarizing influence becomes easier. But the exposure must be careful and deliberate.

Another technique is to acknowledge the dominant idea and then gradually distort it until in the end it loses its identity and collapses. The distortion may simply involve carrying the idea to extremes, or it may involve exaggerating only one feature. Again, the process must be very deliberate and self-conscious.

In tackling a problem, we commonly assume a set of limits within which the solution must lie. We define the boundaries of the problem by assumption, and then within those boundaries proceed to find a solution through vertical thinking. Very often, however, the boundaries are imaginary, and the solution may lie outside them.

Take the apocryphal story of Columbus and the egg. When his friends taunted him, saying that discovering America was really easy since one had only to point west and keep going, he asked them to stand an egg on end. They tried but failed. Then Columbus took the egg, flattened one end, and stood the egg up. Naturally his friends protested that they had thought the egg could not be damaged. They had assumed limits for the egg problem that did not in fact exist. And they had also assumed it wouldn't be possible to point west and keep on sailing. This feat of navigation seemed easy only after Columbus had shown that their assumptions were imaginary.

The search for alternative ways of looking at things does not come naturally. The natural tendency of the mind is to become impressed by the most probable interpretation, and then to proceed from there. This tendency, though, can be overcome. One technique that seems deceptively simple is to predetermine the number of ways in which you will look at any situation. Deliberately make yourself look in several ways at each problem you encounter--say, three or five or more. No matter how absurd your forced interpretations may seem, make yourself fill the quota. In time and with practice, finding other ways of looking at a situation becomes less of an effort.

Another useful technique is to turn things upside down or inside out by consciously reversing some relationship. Reversal is easy wherever a direction is involved, for one direction implies an opposite direction.

A further technique is to shift emphasis deliberately from one part of a problem to another. Place each part in turn under the spotlight of attention and give even the most insignificant part of the problem its fair share.

Perhaps the clearest example of the benefit to be derived from looking at things in different ways is to be found in mathematics. Any equation whatsoever is nothing more than two different ways of describing something. Yet having two ways instead of one is so useful that it is one of the cornerstones of mathematics. Having the two different ways of looking at something on either side of the equal-sign makes it possible to manipulate the whole thing into an answer.

Thinking can be compared to walking over rocky terrain. One way is to move slowly and cautiously, balancing carefully on rock after rock. The other way is to move swiftly over the rocks, pausing so briefly on each that a precise balance at every step is no longer required. When you reach something interesting, you can always look back and pick out the surest way of getting there again. You may have to be at the top of a mountain to discover the best way up.

Vertical thinking has the great disadvantage of needing to be right each step of the way--that is the very essence of logic. And this need to be right at every stage is probably the biggest bar there is to new ideas. With lateral thinking, only the final conclusion need be correct.

The experts laughed at Marconi's idea that he could transmit a signal across the Atlantic. They assured him that since wireless waves traveled in straight lines, they would not follow the curvature of the earth but would stream off into space. Logically, the experts were correct. But Marconi tried, persisted, and succeeded in sending a signal across the Atlantic. Neither he nor the experts knew about the ionosphere, which bounced back the wireless waves that would otherwise have streamed off into space as predicted. Had Marconi been rigidly logical all along, he would have abandoned his idea.

We can point to many another example of an effective discovery that came at the end of a line of reasoning that was certainly not correct at every stage. The discovery of adrenalin, for instance, came about through a mistaken impression:

A certain Dr. Oliver had developed a gadget that he thought measured the diameter of the wrist artery through which we feel the pulse. He measured the diameter of this artery in his son under a variety of conditions, one of which involved the injection of an extract of calves' adrenal glands. He thought he detected that this injection decreased the artery's size. We now know that the effect of adrenalin on the diameter of a large artery would be undetectable, but Dr. Oliver rushed with his "discovery" to Edward Peter Sharpey-Schafer, a renowned physiologist and professor. The professor was disbelieving but, persuaded eventually by Dr. Oliver's enthusiasm, he injected some of the extract into a dog whose blood pressure was being measured. To his amazement, the dog's blood pressure rose in an extraordinary fashion; the effect of adrenalin had been discovered.

The highroad of vertical thinking leads straight toward what seems to be the solution to a problem, but the most effective solution may require that one proceed in exactly the opposite direction. If you separate domestic fowl from some food by a wire screen through which they can see the food, they will look straight at the food and try hard to get through the screen. A dog will realize that to get the food he must first of all go away from it and get around the wire screen.

Making this detour is easy when an obstacle obstructs the most obvious route toward a solution; it is less easy to choose to go in the opposite direction when there is no apparent obstacle. When the two women, each claiming to be the mother of an infant, were brought before King Solomon, he ordered that the baby be cut in half and half given to each woman. This order went in exactly the opposite direction to his chief concerns, which were presumably to see that justice was done and to save the baby. Yet the ultimate effect was to reveal the real mother, who would rather let the other woman have the baby than see it killed.

If you are stopped on a hill and the car in front of you starts to slip back toward you, the natural thing is to try to reverse (assuming there is a stream of traffic in the other lane). However, to do the opposite and drive up to the car in front may make more sense. This lessens the impact, and at this point the brakes of your car may be sufficient to hold the car that is slipping back.

We can make use of chance to generate new ideas. Most of us can remember among our own experiences a number of significant events that happened by chance. Chance events--that is, events that did not occur by design--have initiated valuable contributions to progress.

A tiny spark playing on a piece of apparatus across the room from the equipment Hertz was using caught his eye, and wireless waves were discovered. Roentgen forgot to remove a specially prepared fluorescent screen from a table on which he was playing with a cathode ray tube, and X rays were discovered.

The role of chance in generating new ideas is to give us something to look at that we wouldn't have looked for. Probably the ideal way to encourage this process is through play. But the play must be purposeless, without design or direction. Playing around is an experiment with chance.

James Clerk Maxwell, one of the very greatest scientific and mathematical geniuses, was forever playing. In the midst of a dinner party, he would be lost to the other diners as he fiddled with the cutlery, a reflection from a glass, or a drop of water. Maxwell knew the value of play, for as a teen-ager he had started his scientific career by playing around with pins and threads after he had heard a lecture by Hay, an artist who obtained his effects in this way. With pins and thread Maxwell learned how to draw ellipses, and from this he went on to contribute a piece of original work on the drawing of oval curves when he was still so young that someone else had to read his paper to the Edinburgh Royal Society, since no one in short trousers was allowed to appear before the assembly.

The mind is a memory environment that allows information to organize itself into those patterns we know as concepts, ideas, and reactions. Though highly effective, the system has serious defects arising from the rigidity and persistence of the patterns formed. Its mechanism for updating patterns is extremely weak, and we are now becoming more and more aware of this deficiency. We have developed tools for rearranging concepts, but we need to develop tools for restructuring them. Lateral thinking is such a tool.

My use of scientific ideas to illustrate the way new ideas come about may have given the mistaken impression that lateral thinking is only for those engaged in research work. But this way of thinking can just as well be applied to other situations. The process is a basic one. The mother who put her child in a playpen to stop his pulling the Christmas tree to bits was using one sort of thinking; the husband who decided it made more sense to put the tree into the playpen, instead, was using another sort of thinking.

All of us can think back on isolated instances of lateral thinking that were quite useful at the time. To my mind, the charm of this kind of thinking is that it is an exciting search for the simplicity of a good idea and that it is open to everyone, for it does not depend on sheer intelligence.

SECTION B

S. O. I.

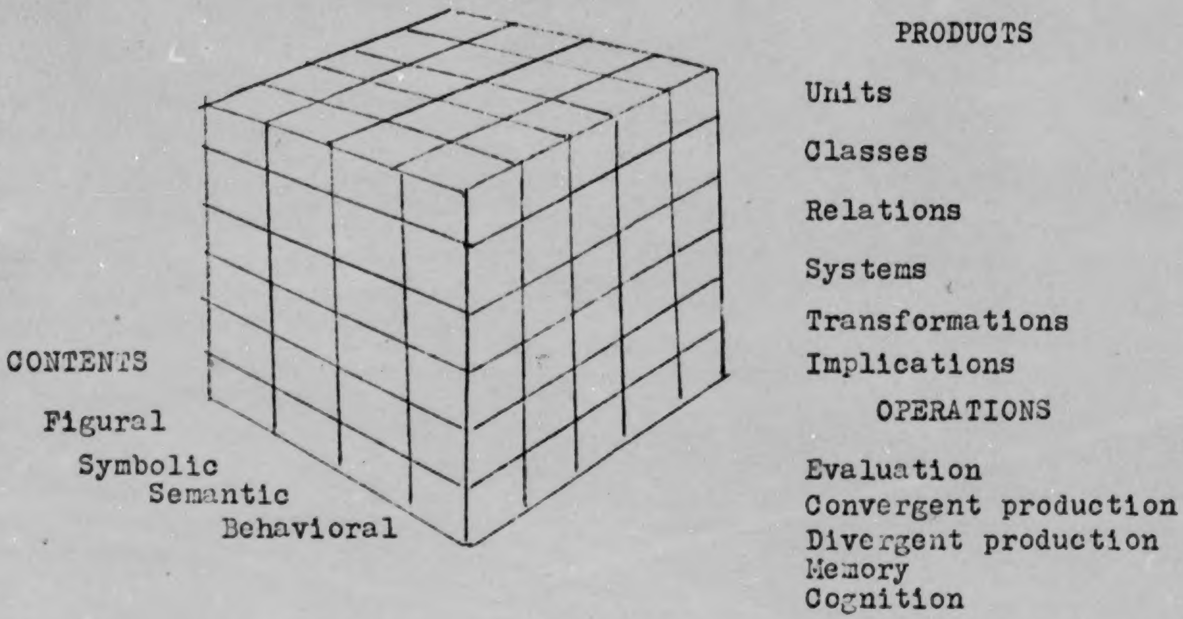
Structure of the Intellect

I. John Guilford's Structure of the Intellect Model and Its Interpretive Uses for the Classroom Teacher

II. Ten Creativity Lessons - based on Guilford's Structure of the Intellect Model

Guilford's Structure-of-the-Intellect Model and Its Interpretive Uses for the Classroom Teacher

Gifted Program Phase I



Guilford's structure-of-the-intellect theory was formulated in the late 1950's and is useful to the classroom teacher, particularly, the teacher of gifted students, in two ways:(1) it serves as a reminder of the great richness and diversity of human thinking abilities and helps to keep the teacher from concentrating on too narrow a range of thinking skills in the classroom;(2) the descriptions of the nature of the thinking skills may stimulate new ideas for classroom practice as the resourceful teacher turns more attention to the development of some of the important thinking skills which have been relatively neglected in the past.

Guilford classifies and organizes the primary mental abilities according to (a) the contents or type of information dealt with,(b) the operations performed on the information, and (c) the products resulting from the processing of the information.

Comprehending the Categories in the Structure-of-the-Intellect Model

COMPREHENDING UNITS

Comprehending units includes recognizing visual and auditory units and the recognition of word structure. This latter ability is important in reading. Another important ability in this area is verbal comprehension - knowledge of meanings of words. This ability can be measured with vocabulary tests or reading comprehension tests and is heavily weighted in intelligence tests.

COMPREHENDING CLASSES

These abilities have to with classifying groups of objects or ideas. An example of a test of this ability is word classification. The examinee indicates which of four words does not belong to a group, e.g. horse, man, canary, flower. This ability is an important part of the process of concept formation.

COMPREHENDING RELATIONS

The cognition of relations involves discovering relationships among objects, symbols, or conceptual material. Examples of tests of these abilities include Seeing Trends and Verbal Analogies. In Seeing Trends the examinee discovers the letter relationship that appears in a sequence of words, e.g. anger, bacteria, camel, dead, excite. In Verbal Analogies he picks one of five words to complete an analogy,e.g. Cloth:Dye::House:_____.

COMPREHENDING SYSTEMS

The fourth cognitive area is that of comprehending patterns or systems. The three abilities found in this area are spatial orientation-the ability to structure the arrangement of objects in space; symbolic relations - the ability to discover patterns or systems among symbolic elements; and general reasoning- the ability to comprehend, or structure a problem in preparation for solving it. General Reasoning involves understanding a conceptual structure. Next to verbal comprehension it is the most important factor in performance on most intelligence tests - particularly important in achievement on arithmetic reasoning tests.

COMPREHENDING TRANSFORMATIONS

Two abilities which are important in the cognition of transformations are visualization and penetration. As example of a test is the Punched Holes Test in which the examinee must indicate what the pattern of holes would be in a piece of paper if it were punched while folded and then unfolded. This ability of visualizing what would happen to objects if they were transformed in some way, without actually manipulating the objects, is probably important in a number of mechanical and engineering jobs. Penetration is measured with the social institutions best by the number of farsighted solutions suggested for improving such institutions as marriage or the sales tax.

COMPREHENDING IMPLICATIONS

Discovering or recognizing implications is an important aspect of human behavior. The ability to plan ahead or foresee the possible outcomes of a present situation has long been recognized as a characteristic of human intelligence. Two known factors are perceptual foresight - the ability to explore visually courses of action in order to select the most effective ones; and conceptual foresight - the ability to anticipate the consequences of a given situation in terms of events.

Tests of perceptual foresight require the individual to trace vicariously possible paths from a point of origin to a goal. This ability is important to electricians, architects and other layout planners.

Conceptual foresight has been measured by the Alternate Methods test(list six different ways of accomplishing a given task). Pertinent Question is another test used to measure this ability. The examinee is presented with a described situation calling for a decision and is to formulate questions regarding things to be considered in making a decision.

MEMORY FACTORS

Factor-analysis research indicates the existence of at least eight different memory abilities. A person may be high on some of these abilities and average or low on others. The eight abilities in this category are concerned with the ability to recall, recognize, or reproduce specific materials presented at an earlier time. Three main types of product are distinguished: (a) memory for substance or content;(b) associative memory, that is, the ability to remember connections between either meaningful or rote material; and (c) memory for systems - ability to remember connections between either meaningful or rote material; and

(c) memory for systems - ability to remember spatial locations of objects or the temporal order in which events occurred.

The eight abilities include: visual memory, auditory memory, memory span and memory for ideas which are abilities for remembering substance or content; rote memory and meaningful memory which are abilities for remembering associations; memory for spatial order and memory for temporal order - abilities for remembering systems.

DIVERGENT PRODUCTION FACTORS

This class of abilities has to do with the production of a diversity of answers in situations where more than one answer may be acceptable.

DIVERGENT PRODUCTION OF UNITS

Two abilities which are important here are word fluency and ideational fluency. Word fluency is the ability to produce rapidly words which fulfill certain structural requirements such as writing words beginning with a specified letter or words beginning with a specified prefix.

Ideational fluency is the ability to call up many ideas in a situation relatively free from restrictions, where quality of response is unimportant. Examples of tests of this ability are Brick Uses and Thing Listing (list things both solid and edible).

DIVERGENT PRODUCTION OF CLASSES

The most important ability is semantic spontaneous flexibility which is defined as the ability to produce a diversity of ideas when there is freedom to do so. This ability is the opposite of perseveration which is a kind of rigidity in thinking.

DIVERGENT PRODUCTION OF RELATIONS

Associational fluency is classified as an ability in the divergent production of relations. It has to do with the ability to think of words that fulfill particular requirements of meaning. For example, naming synonyms or antonyms.

DIVERGENT PRODUCTION OF SYSTEMS

Expressional fluency is an ability which involves facility in producing organized continuous discourse. Tests of this ability include: Simile Interpretation-complete sentences that state analogies),e.g.,A woman's beauty is like the autumn, for it............

Expressional Fluency(write a four-word sentence when the first letter of each word is given),e.g., Y....c....t.....d.....

DIVERGENT PRODUCTION OF TRANSFORMATIONS

The major ability in this category is originality which is the ability to produce uncommon or clever responses or remote associations. This ability is central to most people's conception of creativity. Tests of this ability include: Plot Titles-write clever titles for simple story plots. Consequences - list consequences of sudden and striking hypothetical changes.

DIVERGENT PRODUCTION OF IMPLICATIONS

Semantic elaboration falls in this category. It is the ability to supply details that contribute to the development of an idea or the variations of an idea. A test of this ability is Planning Elaboration. The examinee fills in as many details as necessary to make a briefly outlined plan work.

CONVERGENT-THINKING FACTORS

This class of thinking operations has to do with the production of right answers which are generally closely determined by the information given.

CONVERGENT PRODUCTION OF UNITS

The production of units like comprehending units is at the simplest level of response. The abilities represented involve facility in producing the names of familiar objects or properties of objects or the names of concepts. These abilities are reflected in such tasks as: Form naming - the individual rapidly gives the names of common forms; Word Group Naming - the individual produces a name for the concept represented in a group of words(e.g., movie, game, carnival,bowling,circus).

CONVERGENT PRODUCTION OF CLASSES

The only ability in this category is convergent production of semantic classes. It is the ability to produce a required, fully determined category of meaning. A sample test is Word Grouping.

CONVERGENT PRODUCTION OF RELATIONS

In producing relations the individual is given a relationship or must discover a relationship and must then produce a response which completes the relationship. Examples of this are found in such tasks as: Inventive Opposites - give two antonyms to a word which begins with the indicated letters(e.g., Strong f...,w.....). Vocabulary Completion; Letter Series -add the next two letters to the series A R B R C R D __ ___.

CONVERGENT PRODUCTION OF SYSTEMS

This involves the ability to arrange things in their most appropriate or reasonable order. For example, placing events in the correct order or arranging pictures of actions in their most reasonable order of occurrence.

CONVERGENT PRODUCTION OF TRANSFORMATIONS

These abilities involve reorganizing objects or elements and using them in a new way. An example of the task of shifting the function of an object or part of an object is found in the Gestalt Transformation Test. Which of five objects has a part that can be adapted to solve the stated problem, e.g., which object could best be used to start a fire: A. Fountain pen B. Onion C. Pocket watch D. Peanut E. Bowling ball.

CONVERGENT IMPLICATIONS

The three abilities in this category involve the manipulation of information according to certain rules of procedure which lead rigorously to particular inferences or conclusions. They are symbol substitution, numerical facility, and deduction. Symbol substitution requires the manipulation of figural symbols according to given arbitrary rules to reach conclusions. Numerical facility reflects the ability to perform simple arithmetic operations rapidly and accurately. Deduction also requires convergence on a single right answer and the production of a unique implication of given information. It is the ability to draw correct conclusions.

EVALUATION

Evaluation has to do with determining the correctness, suitability, acceptability, or goodness of information or conclusion.

EVALUATION OF UNITS

Two abilities fall into this category - figural identification (perceptual speed) and symbol substitution. Tests of these abilities present tasks in which the individual must indicate figures or symbols which are the same as a given one.

EVALUATION OF CLASSES

Abilities to evaluate classes would be expected to exist on the basis of the theoretical model of the structure of the intellect.

EVALUATION OF RELATIONS

Logical evaluation and symbol manipulation are two abilities included in this category. Logical evaluation is the ability to use logical relationships in testing the correctness of a meaningful conclusion. A test of this, Logical Reasoning, requires that the examinee evaluate four alternative conclusions and indicate which one follows correctly from two given premises.

EVALUATION OF SYSTEMS

The only ability discovered so far in this category is experiential evaluation. This is the ability to appraise aspects ~~of~~ a situation in terms of internal consistency. This involves the detection of incongruities in pictured situations or judgments as to inconsistencies in problem situations.

EVALUATION OF TRANSFORMATIONS

Judgment is classified here. It is the ability to choose wise courses of action in somewhat ambiguous situations. Judgment as an ability seems to be quite close to the popular conception of "common sense".

EVALUATION OF IMPLICATIONS

Sensitivity to problems is the ability to recognize the existence of problems or the awareness of needs, defects, and deficiencies in the environment. It is classified with the evaluative factors because it seems to involve a kind of judgment as to whether or not a situation is satisfactory or whether some kind of action is needed. This is an important ability in creative thinking.

CREATIVITY LESSONS
(from the J. P. Guilford Model)

Different Letter Groups

Each letter of the alphabet has a different shape. But some whole letters look alike, such as C and G, and others have parts that are alike, such as B and P, or I and T.

In the sets of letters just below, how many different groups can you make, with letters in each group alike in some way?

A H V T C N

Example:

1. H T N (have up-and-down lines)

2. A H N (stand on two feet)

Remember these rules:

1. Use letters only from the given list.
2. Each group should have three letters, all alike in some way.

B H A O D V Y N

E J G I C P Q F

X N E H Z T L M

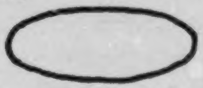
B G A T R K Z P

MANATEE COUNTY PROGRAM FOR THE INTELLECTUALLY GIFTED

CREATIVITY LESSONS
(from the J. P. Guilford Model)

Make Something Out Of It

Just below is a very simple figure. What different things could you make out of it, if you added something to it?



Here are a few things that could be made out of this figure:

eye

ring

mouth

tin can

hamburger

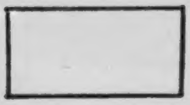
The figure does not have to be a very exact drawing of the thing you make out of it. It may be only a part of the thing, as in the answers "tin can" and "cup."

You do not have to draw the thing, just name it. But you may draw it if you cannot think of its name.

First this:

____

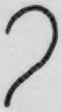
____



And then this:

____

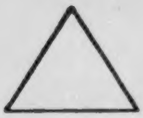
____



First this:

____

____



And then this:

____

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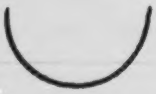


MANATEE COUNTY PROGRAM FOR THE INTELLECTUALLY GIFTED

CREATIVITY LESSONS
(from the J. P. Guilford Model)

Writing Sentences

Writing sentences is not a new task for you. But here you are asked to write sentences in a special way. In each task, you will be given five words, for example, the words:

TIM GUN MONKEY RIVER SCHOOL

Each sentence that you write should have in it two of these words. You could write sentences like:

Tim was late for school.

The monkey jumped into the river.

The monkey's name was Tim.

The gun was found in the river.

Keep your sentences short.

You may use three words in the same sentence.

The sentence does not need to be a true statement.

The sentence should make sense.

Sentences can be funny.

Write as many different sentences as you can, using TWO or THREE of these words in each sentence:

FIRE EGG JANE PAPER STREET

Write as many different sentences as you can, using TWO or THREE of these words in each sentence:

DUCK FAN DESK CANDY MAN

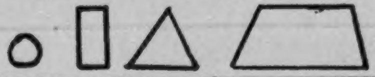
MANATEE COUNTY PROGRAM FOR THE INTELLECTUALLY GIFTED

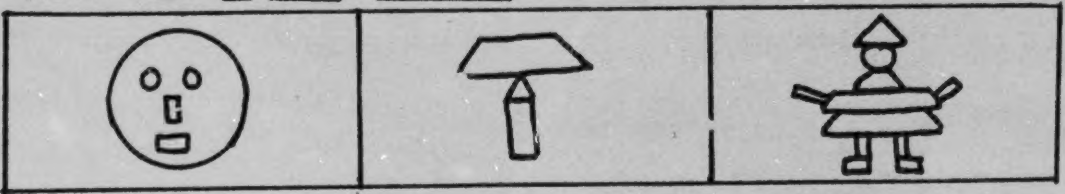
CREATIVITY LESSONS
(from the J. P. Guilford Model)

Making Objects

This is an activity of putting pieces together to make things. Look at the pictures below. The four given pieces are used to make three objects -- a face, a lamp, and a clown.

Given Pieces:

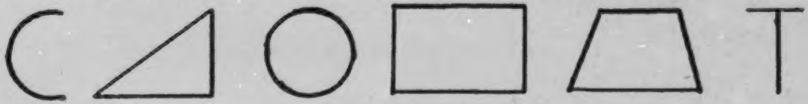




The rules of the game are:

1. Use only the pieces given on each page. Do not add any other lines.
2. You may change the size of each piece, or turn it around, but do not change its shape.
3. You may use a piece as many times as you wish in making the same object.
4. You do not have to use all the pieces in the same object.

Give these simple figures, make the object named in each box. Remember the rules.



Ice cream cone	Sail Boat	Rocking Chair	Boy or girl
Woman's hat	Wagon	Telephone	Steamship

MANATEE COUNTY PROGRAM FOR THE INTELLECTUALLY GIFTED

CREATIVITY LESSONS
(from the J. P. Guilford Model)

Similar Meanings

Many words mean about the same as other words. Here is an example:

What words mean about the same as GOOD?

fine

all right

nice

well-behaved

What words mean about the same as FAIR?

What words mean about the same as PUNCH?

What words mean about the same as SAD?

What words mean about the same as to SPEAK?

CREATIVITY LESSONS
(from the J. P. Guilford Model)

What To Do With It

Everything we see around us is useful for something. A frying pan is used for cooking; a bat is used for hitting baseballs; and a hat is worn to protect your head.

But each object can be used for something unusual. For example, a newspaper is used for reading, but it could also be used to:

start a fire

wrap garbage

kill flies or spiders

keep rain off your head

A BED SHEET is used as part of a bed. What else could it be used for? Give unusual uses, not common uses.

A SHOE is used to wear on your foot. What else could it be used for? Give unusual uses.

A RUBBER BAND is used for holding things together. What else could it be used for? Give unusual uses, not common uses.

A WOODEN PENCIL is used for writing or for drawing pictures. What else could it be used for? Give unusual uses.

MANATEE COUNTY PROGRAM FOR THE INTELLECTUALLY GIFTED

CREATIVITY LESSONS
(from the J. P. Guilford Model)

Kinds of People

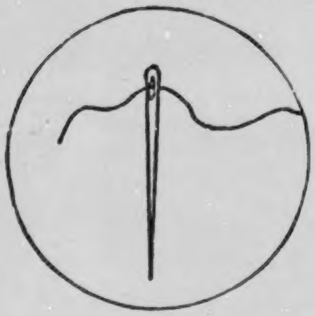
One day some people from another planet landed on earth. Some earth people who came near them saw that each person wore on his sleeve a sign that showed the kind of work he did on his home planet. The things done there are like those done on earth. Here is one sign, a picture book:

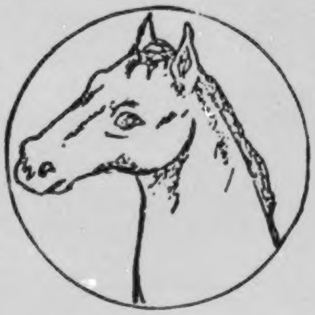
When they saw this sign, the earth people gave these ideas:

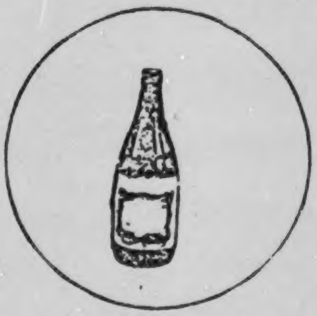
teacher, writer, student, singer, ________________

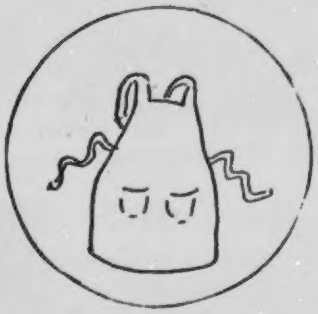
If you think of another kind of person the book could stand for, write it on the line above. You might have said, "book seller" or "bookkeeper." Each kind of person should have its own kind of work or job.

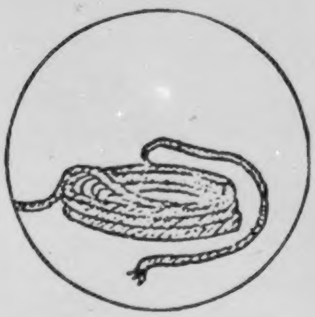
What kinds of people do the signs given below make you think of? Write your ideas on the lines below each sign. Be sure to name kinds of people, with kinds of jobs. Do not just name objects.

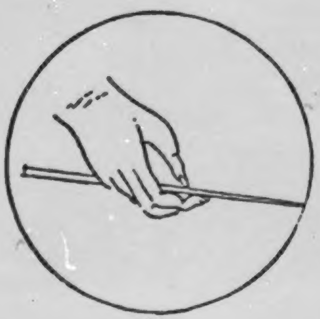










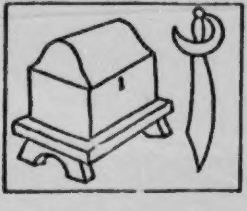


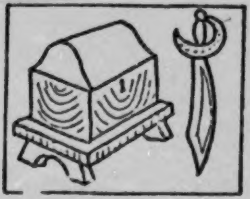
MANATEE COUNTY PROGRAM FOR THE INTELLECTUALLY GIFTED

CREATIVITY LESSONS
(from the J. P. Guilford Model)

Adding Decorations

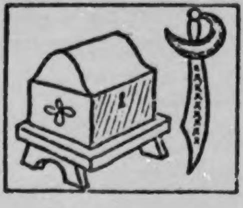
In the first picture below, the two objects are very plain. They need some lines added to make them look better. In the second picture, lines have been added to decorate the objects.



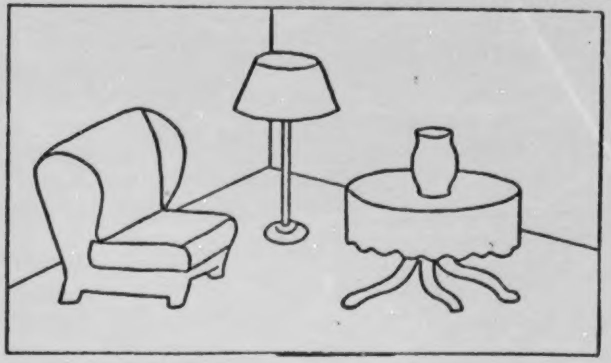


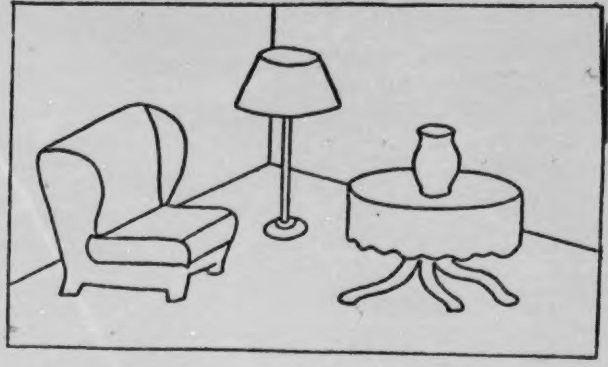
You can see that any part of an object may have its own decoration, and that all decoration ideas are different. Now look at another set of directions.

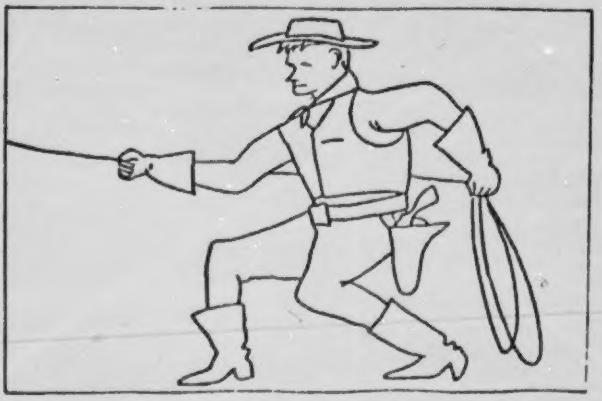
In the picture at the right, some other decoration ideas have been used, different from those in the second picture above. You will also see that every part of an object may have its own decoration.

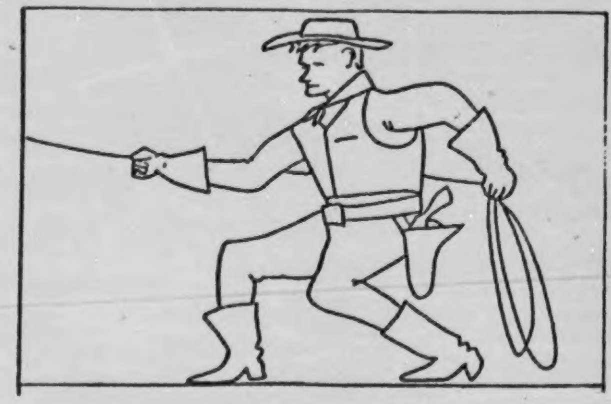


Decorate these objects in different ways.









CREATIVITY LESSONS
(from the J. P. Guilford Model)

Names for Stories

Every story has a name or title that tells something about the story. Look as the story below, and think what names it might have.

One year the grain that was grown on farms near a village was spoiled. A wise old man told the people that if they ate bread made from it they would go crazy. They laughed at him, and ate the bread anyway, and all went crazy. Then the old man was so different that they thought he should be locked up in a hospital. So he ate the bread, too and became like the others.

Here are some names for this story:

The town's people all went crazy

They didn't take a wise man's advice

In a crazy town, act crazy

A town's health problems

The man who didn't dare to be different

Write as many names as you can for this story:

Mr. John Fox had a vineyard of fine grapes, but animals that lived nearby came to help themselves. John needed all the grapes to sell, so he built a high fence around his vineyard. Next year when the grapes were ripe, Mr. Reynard, the fox, came around expecting his usual feast. He jumped and jumped, but he could not get over the fence. He turned away and was heard to say, "I don't want any of those grapes, anyway; they are too sour for me."

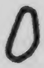
Write as many different names as you can for this story:

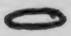
One day a red pony named Ruby wandered off into the woods and did not return. Several people who were fond of Ruby went in search of her. All of them gave up except a stupid boy named Randy, who came home leading Ruby. When asked how he had found her, he said, "I just thought if I were a horse and got lost, where would I go? I went there, and there she was."

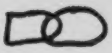
MANATEE COUNTY PROGRAM FOR THE INTELLECTUALLY GIFTED

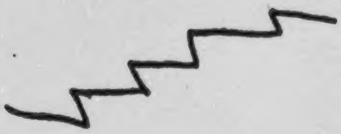
Creative Doodling

Everyone likes to doodle. Different people draw different things. We want you to finish the doodles below. You may make whatever you like from each one.









SECTION C

A Major Priority
for Educational Planning:
BALANCE

Cognitive	and	Affective
Verbal		Visual
Numerical		Spatial
Linear		Perceptual
Euclidean		Intuitive
Rational		Imaginative
Logical		Fantasy
Geometric		Imagery
		Metaphoric
		Sensory

I. Cerebral Symmetry: An Urgent Concern for Education by Max Rennels

II. Frank Williams' Model for Implementing Cognitive-Affective Behaviors in the Classroom

III. Teaching Strategies using Frank Williams' Model

IV. Seagoe's Learning Characteristics of Gifted Children

V. Frank Williams' Teaching Strategies and Seagoe's Characteristics of the Gifted

VI. The Key: Ask Good Questions to Help Students Think by Pat Mullins

Manatee County Program for The Intellectually Gifted

CEREBRAL SYMMETRY: AN URGENT CONCERN FOR EDUCATION

by
Max R. Rennels

A distraught mother came to me with her 16-year-old son Clyde, who could not read. They were both convinced that he had intellectual deficiencies, and before going any further they wanted to know if he actually had the ability to learn to read.

Clyde often lapsed into unusual fantasies. He liked to record these imaginative forays graphically. His drawings were elaborate, with highly developed visual and spatial concepts. I measured the functional levels of Clyde's cerebral regions with the electroencephalograph. These measures indicated that, though his left hemisphere was adequately functional, he had a highly developed and dominant right cerebral hemisphere. On the basis of these EEG tests, spatial test, perceptual tests, and the interview, I concluded that right cerebral dominance, not neural impairment, probably accounted for Clyde's reading difficulty. The school was apparently unable to assist him in merging the two cerebral functions.

Western man's development and survival are believed by many neurologists to have been contingent upon the processes of Euclidean/linear thought. Further, man's institutions have emphasized and nurtured the same mental processes that were responsible for his prior accomplishments. In fact, educational institutions, in emphasizing linear thought processes, have largely neglected man's capacity to imagine, visualize, or attend efficiently to visual/sensory stimuli. These factors of neural functioning among young children have been left to modification by random environmental rather than systematic institutional means.

Thus it has long been assumed that children would eventually get what they need perceptually from their environment without interference or augmentation by educationists. Actually, the schools have systematically eliminated those experiences that would assist young children's development of visualization, imagination, and/or sensory/perceptual abilities. When he initially arrives at school, the child has been examining his world on a sensory/perceptual basis. Jerome Bruner identifies this mode of knowing as "inactive" or "psychomotor." Bruner apparently regards this as a temporary state, after which the child moves naturally along a continuum toward a higher order of knowing termed the "symbolic" stage. Research by H. A. Witkin seems to confirm Bruner's continuum hypothesis.

It could be possible that the movement occurs on this continuum because of education's emphasis on the analytic/linear functions considered desirable in Western society. In fact, it has been found that movement along a continuum can be manipulated rather easily. Daniel J. Reeves found that, with specific training sequences, his subjects could be moved along such a continuum in either direction, or even in both directions simultaneously. It is doubtful that all people develop in the linear/Euclidean mode without the pressure of societal institutions. Increasing the number of experiences and developing broader categories of knowledge do not always lead to analytic, linear, or Euclidean functioning unless forced.

If educational institutions were so inclined, they would encourage the child not only to keep or maintain his sensory/perceptual abilities but to develop them further. It does not seem logical that, to facilitate an increase in verbal and numerical skills, the sensory/perceptual skills have to be proportionately decreased.

Roger W. Sperry's investigations have shown that man's cerebral hemispheres can function independently from each other. However, with the hemispheric connection (corpus callosum) intact, the brain appears to be able to cross-reference or combine some functions from each of the hemispheres. These studies suggest that educational institutions, rather than continuing to place emphasis only upon those functions that reside in the left cerebral hemisphere, should become concerned with developing equal qualities of cerebral functioning in children.

For a number of years, the standard measures of intellectual maturity have considered a number of factors involved in knowing. They were generally categorized as verbal, numerical, spatial, perceptual, and abstract. Though psychometricians have been aware of the dual nature of human capacity, educational institutions have consistently placed emphasis upon the verbal/numerical categories. Beginning in the preschool and kindergarten classes, the child is encouraged to delete sensory/imaginative behaviors in favor of verbal/numerical skills. Children are asked to sit quietyly and absorb the input of linear data. The child who touches, wiggles, talks, and examines his surroundings, the youngster who occasionally falls into fantasies, daydreams, and differentiated imaginings, is considered deviant. Yet that type of behavior grows out of spatial, perceptual, and abstract abilities which account for approximately three-fifths of the factors measured by standard intelligence tests. The compensatory programs of the 1960's clearly indicate that children from homes devoid of visual and sensory stimuli have lower intellectual capabilities than others, and this deprivation causes damage that is virtually irreversible by age 6. In order to function, children must have the opportunity to function. Alfred North Whitehead has inferred that the brain is like a basket of fish; if not used, it will spoil quickly. R. A. Butler and others studying sensory deprivation have for years proclaimed the necessity for continued sensory functioning.

Christopher Evans has found that when subjects are deprived of dream sequences they lapse into states of disorientation. Though dreaming is in fact a different function that imagining, there is some similarity in the kinds of electromagnetic waves produced. Recent studies into the alpha state of awareness have begun to emphasize the desirability for intrinsic control of neural functions. It has been found that when numerical or verbal cogitation is occurring, the right cerebral hemisphere is more apt to be producing alpha waves. In other words, the right hemisphere is idle during that state of functioning.

The frequency and magnitude of the electromagnetic field produced in the cerebral region is of great concern to neurologists and of growing concern for educators. With Western man's primary institutional emphasis upon left cerebral functions, are educators overlooking a significant number of students who have highly developed right hemispheres? My own laboratory research utilizing electroencephalographic equipment has clearly indicated that differences do exist in cerebral dominance among adults and primary among those involved in the arts.

It has been found that many of these adults had verbal and/or numerical difficulty during their elementary school years. The Graduate Record Examination scores for graduate students in the arts are considerably lower than GRE scores from graduate students in the linear/Euclidean areas of study. Somehow these students have maintained a highly developed right cerebral hemisphere in spite of educational and sociological pressures. Motivation, interest, and need would certainly account for a part of this.

Rhoda Kellogg has stated that when children labled as retarded show drawing skills they have probably been mislabled. My investigations of educable mentally handicapped children indicate that when genetic brain dysfunctioning is prevalent, it occurs equally in both hemispheres. However, when neurological impairment has occurred due to external forces, the impairment is not equal in both hemispheres. Thus my research appears, at least in part, to substantiate Kellogg's premise. It also supports the hypothesis that equal educational attention should be given to all facets of intellectual capacity.

The question is not whether educators should attempt to develop either the left or right hemisphere, but that they should concentrate upon the development of neurological symmetry. This could be accomplished through focusing education upon the total reasoning processes. Educators in the arts have long been concerned with facilitating the marriage between the functions of both the left and right hemispheres.

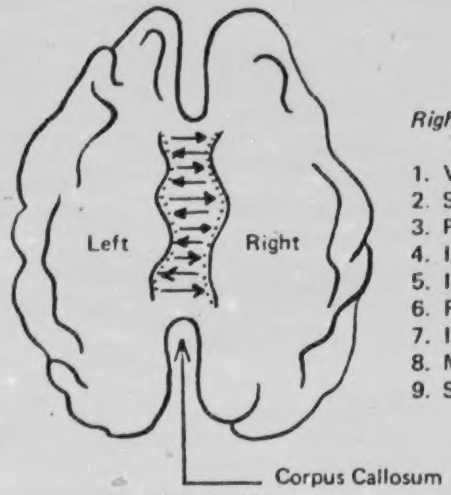
Gregory Kepes, in Language of Vision, states that the arts should live in inseparable unity with human life. Clearly, Kepes meant that for the fully functioning person to exist, the neural functions residing in both hemispheres of the brain need to be unified. This would seem to correspond with the belief of the late Robert Oppenheimer, who strongly felt that children playing in the street could solve some of his top problems in physics, because they have modes of sensory perception that he lost early in his development.

It has been stated that intelligence without imagination is useless. It now appears that, as educators, we should urgently concern ourselves with the children who are capable of reading, of using numerals, of feelings, of imagination, and of foreseeing abstract consequences. These children can develop only when neural symmetry becomes of concern to public education.

Resident Functions of Left and Right Hemispheres

Left

1. Verbal
2. Numerical
3. Linear
4. Euclidean
5. Rational
6. Logical
7. Geometric

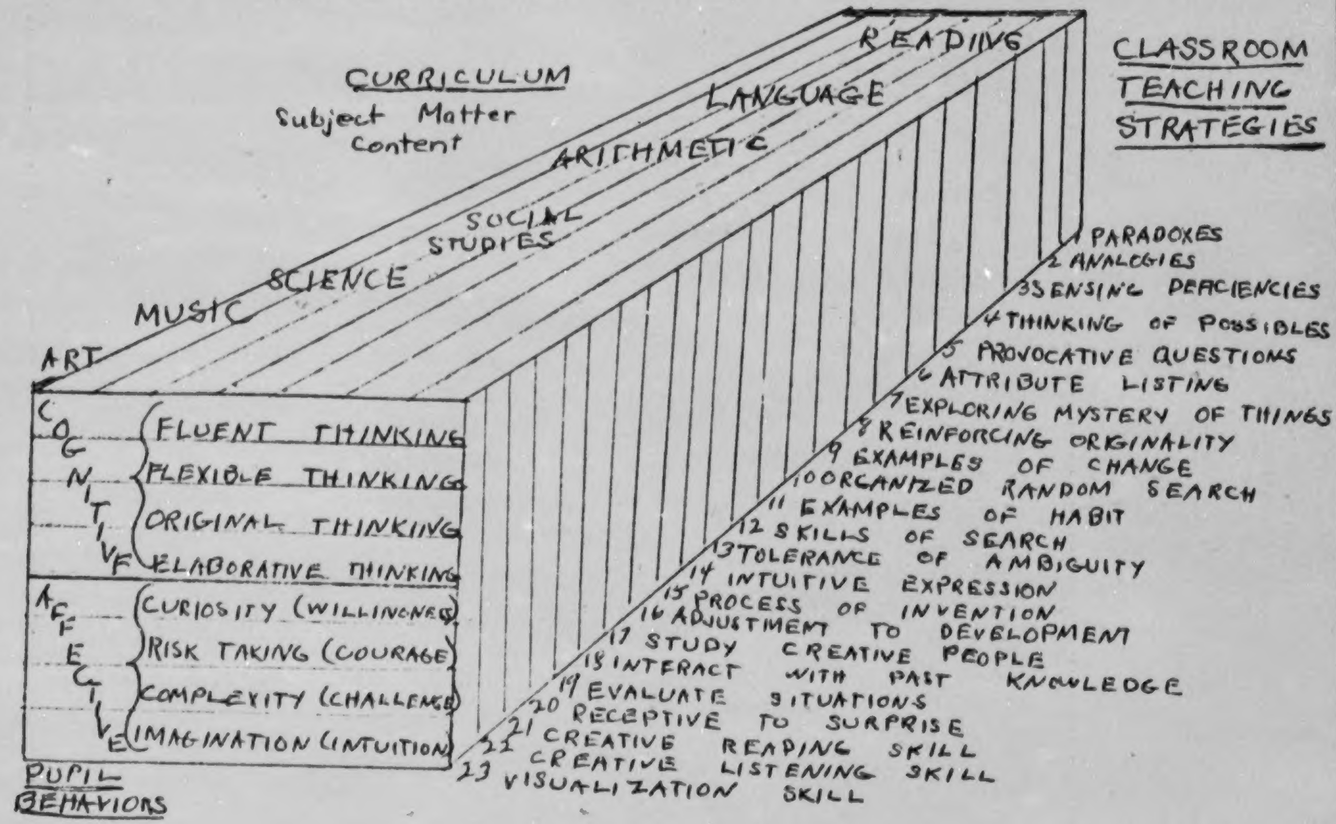


Right

1. Visual
2. Spatial
3. Perceptual
4. Intuitive
5. Imaginative
6. Fantasy
7. Imagery
8. Metaphoric
9. Sensory

A MODEL FOR IMPLEMENTING COGNITIVE-AFFECTIVE BEHAVIORS IN THE CLASSROOM

(by Frank Williams)



The model for implementing cognitive-affective behaviors in the classroom characterizes the interrelationship between one or more strategies employed by the teacher across the various subject matter areas of the curriculum in order to elicit a set of four cognitive and four affective student behaviors. What the teacher does or the media she or he uses is strategy, but how the pupil thinks or feels is process, and both are related to subject matter content.

Samples of teaching strategies to develop student behaviors in five subject areas are described as follows:

** SAMPLE OF TEACHING STRATEGY: #1 PARADOX in Five Subject Areas

Social Studies:

All men are born free, all men are created equal.

America is a land of plenty abounding in poverty.

Science:

"The sun set; the moon rises."

Language Arts:

"S" sound is only represented by letter "s".

Arithmetic:

Addition and subtraction are reverse arithmetical procedures.

Art and Music:

Artists and Musicians are misfits in society.

** SAMPLE OF TEACHING STRATEGY: #2 ANALOGY in Five Subject Areas:

Social Studies:

Similarities between early explorers and astronauts.

Science:

Reflected sound waves in bats analogous to radar.

Language Arts:

How many words that mean the same as "bright".

Arithmetic:

Multiplication is the same as repeated addition.

Art and Music:

Line is to art as theme is to music.

** SAMPLE OF TEACHING STRATEGY #3: SENSING DEFICIENCIES

Social Studies:

Consider why two groups of people with identical resources develop different cultures.

Science:

Growth of two identical seeds - one fertilized and one not.

Language Arts:

Exceptions to the rule, "i before e, except after c."

Arithmetic:

Using only natural numbers, problems like 5 - 7 = x have no answer.

** SAMPLE OF TEACHING STRATEGY #4: THINKING OF POSSIBILITIES

Social Studies:

What would happen if all people lived in glass houses?

Science:

How might you possibly communicate with an eel?

Language Arts:

How many possible words can be made by rearranging L G U E B ?

Arithmetic:

How many possible ways can the number 10 be expressed?

#5

** SAMPLE OF TEACHING STRATEGY: PROVOCATIVE QUESTIONS

Social Studies:

What if early explorers had come from Asia instead of Europe?

Science:

What if cows had gizzards instead of stomachs?

Language Arts:

By changing consonants how many words can be formed from RAKE?

Arithmetic:

How might a clock be constructed without using numbers?

#6

** SAMPLE OF TEACHING STRATEGY: ATTRIBUTE LISTING

Social Studies:

Find those traits that are common to all people you know.

Science:

Among a collection of objects discover the qualities of some which cause them to be attracted to a magnet.

Language Arts:

Select some common object in the classroom and give as many words as you can to describe it.

Arithmetic:

What are the inherent properties of a trapezoid as compared to a square?

Art and Music:

Think of all the common traits among 18th Cent. musicians.

** SAMPLE OF TEACHING STRATEGY #7: EXPLORING THE MYSTERY OF THINGS

Social Studies:

How many kinds of explosions are caused by people?

Science:

By exploring cell development- predict the hatching time of an egg.

Language Arts:

Write a story about an unidentified flying object.

Arithmetic:

How can two containers of different shapes have the same volume?

** SAMPLE OF TEACHING STRATEGY #8: REWARDING ORIGINALITY

Social Studies:

Reward the pupil who thinks of the most unique idea for developing one natural resource of his state.

Science:

Encourage all pupils to invent a new kind of milk container and reward the three best ideas.

Language Arts:

Give double credit for the most unique words used to express a simple idea.

Arithmetic:

Reward those who think of the most unusual way to express the number 15.

Art and Music:

From all pupils"Original Ideas" scrapbook, display the most unusual at PTA.

** SAMPLE OF TEACHING STRATEGY:#9 EXAMPLES OF CHANGE

Social Studies:

Consider geographic changes resulting from prevailing easterly winds rather than westerly.

Science:

Consider how the way of life of Indians was changed by the colonizers.

Language Arts:

Consider new words in our vocabulary as a result of the space age.

Arithmetic:

Consider other ways to use base 2 such as the computer does.

Art and Music:

Consider how the invention of photography changed from reproduction to self-expression.

** SAMPLE OF TEACHING STRATEGY:#10 ORGANIZED RANDOM SEARCH

Social Studies:

Modify the Peace Corps to solve our racial problems.

Science:

After demonstrating the presence or air in several things think of more ways to prove this.

Language Arts:

Given a list of any 10 lines write a short story using them by adding verbs, prepositions, and articles.

Arithmetic:

Use the operation of division to discover rules for the same operation with decimals.

Art: Using various geometric shapes of colored paper arrange them to form a picture.

** SAMPLE OF TEACHING STRATEGY: #11 EXAMPLES OF HABIT

Social Studies:

Show the relationship between impoverishment and outdated farming methods in a selected country.

Science:

How many kinds of transportation have remained the same over the last 50 years?

Arithmetic:

Problems resulting from English system of measures.

** SAMPLE OF TEACHING STRATEGY: #12 SKILLS OF SEARCH

Social Studies:

Search for ways that have been used for seeking peace in the world.

Science:

Search for methods used for keeping records on and identifying people.

Language Arts:

Search for ways that pictures, charts. or diagrams could be used instead of written materials.

Arithmetic:

Search for ways number bases other than 10 are used.

Art:

Search for ways stories can be illustrated for clearer meaning.

#13

** SAMPLE OF TEACHING STRATEGY: TOLERANCE FOR AMBIGUITY

Social Studies:

Consider effects of not keeping peace in the world.

Science:

Consider effects of Man's inability to control weather.

Language Arts:

Show only the beginning of a film, ask pupils to write their own ending.

Arithmetic:

Consider all things which remain unmeasurable.

Art and Music:

Play the beginning of a song; have pupils compose an ending.

#14

** SAMPLE OF TEACHING STRATEGY: INTUITIVE EXPRESSION

Social Studies:

Discuss your feelings when the Star Spangled Banner is played.

Science:

Collect list of inventions that come about by scientists' hunches.

Language Arts:

Write a vivid story about your feeling of the color red.

Arithmetic:

Without a system of measure describe the heights of objects.

Art and Music:

Improve dance steps expressing feelings while listening to a symphony.

#15

** SAMPLE OF TEACHING STRATEGY: PROCESS OF INVENTION

Social Studies:

Study conditions under which penicillin was discovered.

Science:

Explore conditions which led Alexander Graham Bell to invent the telephone.

Language Art:

Study life of Louis Braille and how he invented a way for the blind to read.

Arithmetic:

Study conditions which led man to invent a system of counting.

Art and Music:

Study symbols the Meistersinger in 14th Century Europe used to express music today.

#16

** SAMPLE OF TEACHING STRATEGY: ADJUSTMENT TO DEVELOPMENT

Social Studies:

Study how the mistake Columbus made paid off.

Science:

Study how Aristotle's concept of force was refined by Galileo's acceleration experiments.

Language Arts:

Develop a new expression for the concept of gravity.

Arithmetic:

Study the development of the metric system by Legrange.

** SAMPLE OF TEACHING STRATEGY: #17 STUDY CREATIVE PEOPLE

Social Studies:

Study the life of Winston Churchill- what made him creative?

Science:

Study the scientific inventions made by Leonardo De Vinci.

Language Arts:

Study the life of Helen Keller, what made her a great person?

Arithmetic:

Study the life of Poincare and his procedures of problem solving.

Art and Music:

Study the life of Bach- what was he really like?

* SAMPLE OF TEACHING STRATEGY: #18 INTERACT WITH PAST KNOWLEDGE

Social Studies:

Predict what might have happened if Lincoln had not been assassinated.

Science:

Explain the position of an ice cube in water versus alcohol.

Language Arts:

Think of all the meanings for the word "check".

Arithmetic:

Find uses of clock arithmetic in the business world.

#19

** SAMPLE OF TEACHING STRATEGY: EVALUATE SITUATIONS

Social Studies:

Consider the effects of different pastel shades of colored huts on the life of people in Mexico.

Science:

Evaluate Newton's law of action-reaction in space.

Language Arts:

Evaluate the meaning of the word "big".

Arithmetic:

Based upon the graph of $X + y = 4$ decide how to graph $x + y > 4$.

#20

** SAMPLE OF TEACHING STRATEGY: RECEPTIVE TO SURPRISE

Social Studies:

Study effects of music on man's ability to work.

Science:

Study Goodyear's discovery of vulcanization of rubber.

Language Arts:

Rearrange a scientific paper into a fiction story.

Arithmetic:

Discover how dividing by smaller numbers gives larger answers.

Art and Music:

Run finger through mixture of blue and yellow chalk dust.

** SAMPLE OF TEACHING STRATEGY: #21 CREATIVE READING SKILL

Social Studies:

Read about achievements of a famous politician and predict what his childhood was like.

Science:

Read about the life of a scientist and predict his later life.

Language Arts:

Make a list of ideas you had while reading a mystery story.

Arithmetic:

Rewrite a verbal problem in arithmetical form.

Art and Music:

Illustrate an adventure story with drawings.

** SAMPLE OF TEACHING STRATEGY: #22 CREATIVE LISTENING SKILL

Social Studies:

Listen to the first half of a speech and make predictions about the last half.

Science:

Listen to a scientist talk and predict what kind of person he is.

Language Arts:

Listen to your mother and guess what she is going to say next.

Arithmetic:

What kind of audio messages could be sent from other planets.

** SAMPLE OF TEACHING STRATEGY #23: VISUALIZATION SKILL

Social Studies:

Describe your school as seen from a low flying helicopter.

Science:

Describe a two dimensional world.

Language Arts:

Visualize yourself as an elephant; what would the word " small " mean to you?

Arithmetic:

Form a visual picture of a line and a plane and express all their possible relationships.

Art:

Draw a life-like visualization of yourself.

MANATEE COUNTY PROGRAM FOR THE INTELLECTUALLY GIFTED

TEACHING STRATEGIES

(using Frank Williams' Model)

NAME	MEANING
NO. 1 - PARADOXES	Situation opposed to common sense Self-contradictory statement or observation Discrepancy in belief but true in fact
NO. 2 - ANALOGIES	Situations of likeness Similarities between things Corresponding circumstances
NO. 3 - SENSING DEFICIENCIES	Gaps in knowledge Missing links in information Unknown elements
NO. 4 - THINKING OF POSSIBLES	Guessing or forming hypotheses Thinking of probabilities Constructing alternatives
NO. 5 - PROVOCATIVE QUESTIONS	Inquiry to bring forth meaning Incite knowledge exploration Summons to discovering new knowledge
NO. 6 - ATTRIBUTE LISTING	Inherent properties Conventional symbols or identities Ascribing qualities
NO. 7 - EXPLORING MYSTERY OF THINGS	Detective work on unfamiliar knowledge Examine unnatural phenomena Deductive thinking
NO. 8 - REINFORCING ORIGINALITY	Rewarding original thinking Allowing opportunities to think of something no one else has thought of Strengthen unlikely but relevant responses
NO. 9 - EXAMPLES OF CHANGE	Demonstrate the dynamics of things Provide opportunities for making alterations, modifications, or substitutions
NO.10 - ORGANIZED RANDOM SEARCH	Use a familiar structure to lead at random to another structure Case studies from which new courses of action are devised
NO.11 - EXAMPLES OF HABIT	Discuss the effects of habit-bound thinking Build a sensitivity against rigidity in ideas and functional fixation of things

NAME	MEANING
NO. 12 - SKILLS OF SEARCH	Consider ways something has been done before (historical search) Trial and error search on various methods and describe results (descriptive search) Control experimental conditions and report subsequent results (experimental research)
NO. 13 - TOLERANCE FOR AMBIGUITY	Provide encounters which puzzle, intrigue, or challenge thinking Pose open-ended stiuations which do not force closure
NO. 14 - INTUITIVE EXPRESSION	Feeling about things through all the senses Skill of expressing emotion Be sensitive to inward hunches about knowledge
NO. 15 - PROCESS OF INVENTION	Steps of problem-solving leading to invention Study the incubation process leading to insight
	Examine how failures or accidents have paid off Learn how to learn from mistakes Examples of process of development rather than adjustment to something already developed
NO. 17 - STUDY CREATIVE PEOPLE	Analyze traits of eminently creative people Study the process which has led to creation
NO. 18 - INTERACT WITH PAST KNOWLEDGE	Allow opportunities to toy with information already acquired Nurture ideas from previously stored knowledge
NO. 19 - EVALUATE SITUATIONS	Deciding upon solutions in terms of their consequences and implications Extrapolate from the results of ideas and actions
NO. 20 - RECEPTIVE TO SURPRISE	Alert to the significance of novel thoughts Capitalize upon unexpected ideas
NO. 21 - CREATIVE READING SKILL	Develop a utilitarian mind-set for information Learn the skill of idea generation by reading
NO. 22 - CREATIVE LISTENING SKILL	Learn the skill of idea generation by listening Listen for information which allows one thing to lead to another
NO. 23 - VISUALIZATION SKILL	Practice describing views from unaccustomed vantage points Express ideas in three-dimensional forms Look at things in plan form or views

SOME LEARNING CHARACTERISTICS OF GIFTED CHILDREN - May V. Seagoe

CHARACTERISTICS	CONCOMITANT PROBLEMS
1) Keen power of observation, naive receptivity sense of the significant; willingness to examine the unusual.	1) Possible gullibility. social rejection, value system and its defense.
2) Power of abstraction, conceptualization, synthesis, interest in inductive learning and problem solving pleasure in intellectual activity.	2) Occasional resistance to direction, rejection or omission of detail.
3) Interest in cause-effect relations, ability to see relationships; interest in applying concepts; love of truth.	3) Difficulty in accepting the illogical.
4) Liking for structure and order, liking for consistency, as in value systems, number systems, clocks, calendars.	4) Invention of own systems, sometimes conflicting.
5) Retentiveness.	5) Dislike for routine and drill; need for early mastery of foundation skills.
6) Verbal proficiency, large vocabulary facility in expression interest in reading; breadth of information in advanced areas.	6) Need for specialized reading vocabulary early; parent resistance to reading escape into verbalism.
7) Questioning attitude, intellectual curiosity, inquisitive mind; intrinsic motivation.	7) Lack of early home or school stimulation.
8) Power of critical thinking, skepticism, evaluative testing, self-criticism and self-checking.	8) Critical attitude toward others; discouragement from self-criticism.
9) Creativeness and inventiveness, liking for new ways of doing things, interest in creating, brain-storming, free-wheeling.	9) Rejection of the known, need to invent for oneself.

(continued)

Learning Characteristics of Gifted, continued:

10) Power of concentration; intense attention that excludes all else; long attention span.	10) Resistance to interruption.
11) Persistent, goal-directed behavior.	11) Stubborness.
12) Sensitivity, intuitiveness; empathy for others; need for emotional support and sympathetic attitude, ego-involvement, need for courage.	12) Need for success and recognition; sensitivity to criticism; vulnerability to peer group rejection.
13) High energy, alertness, eagerness; periods of intense voluntary effort preceding invention.	13) Frustration with inactivity and absense of progress.
14) Independence in work and study; preference for individualized work; self-reliance; need for freedom of movement and action; need to live with loneliness.	14) Parent and peer group pressures and nonconformity; problems of rejection and rebellion.
15) Versatility and virtuosity; diversity of interests and abilities; many hobbies, proficience in art forms such as music and drawing.	15) Lack of homogeneity in group work; need for flexibility and individualization; need for help in exploring and developing interests; need to build basic competencies in major interests.
16) Friendliness and out-goingness.	16) Need for peer group relations in many types of groups; problems in developing social leadership.

SAMPLES OF SEAGOE'S CHARACTERISTICS OF THE GIFTED USING WILLIAMS' TEACHING STRATEGIES IN SUBJECT AREAS.

Gifted
Characteristic #7: Questioning attitude, intellectual curiosity, inquisitive mind, intrinsic motivation.

Teaching
Strategy #7: Exploring Mystery of Things

Subject Area: Mathematics

Activities:
1. How and why math puzzles and brainteasers work, development of puzzles and brainteasers.
2. Study of patterns in numbers.
3. Discussion of math in the future.
4. Research on basic numeration system.

Gifted
Characteristic #9: Creativeness and Inventiveness

Teaching
Strategy # 4: Thinking of Possibles

Subject Area: Science

Activities:
1. Perform brain-storming efforts to list a number of ways of:
    a. Producing more electrical power
    b. Conserving electrical power consumption in the home.
    c. Conserving electrical power usage in industry.
    d. Providing intermittent increased electrical power capacity for peak hour usage.

Gifted
Characteristic #11: Persistent, goal-directed behavior.

Teaching
Strategy #17: Study creative people- Alexander Graham Bell

Subject Area: Science

Activities: In a dialogue, Bell (just prior to his final success) will explain to his not too receptive father-in-law that he has been working toward a goal. Bell will explain his attempts and failures.

Gifted
Characteristic #9: Creativeness and inventiveness; liking for new ways of doing things; creating, brain-storming.

Teaching
Strategy #4: Thinking of possibles-oral and written
#5: Provocative questions

Subject Area: Language

Activities:
1. "What would you do different in life if you had only one left arm ?""What couldn't you do?"
2. If our world were free of pollution and war, what would people then be "uptight" about ?

Gifted
Characteristic #3: Interest in cause-effect relations

Teaching
Strategy #19: Evaluate situations

Subject Area: Social Studies

Activities: Research topic - books, fairy tales, cartoons, jobs- "liberation of women in our society today" - emphasizing causes for past treatment of the female segment of society - ours and other countries. Personal interviews of men and women from different walks of life and how they feel about women's lib. Synthesize findings as to cause-effect relations. Evaluate situation and draw conclusions.

Gifted
Characteristic #14: Independence in work and study; power of con-concentration; intense attention for a long time.

Teaching
Strategy #8: Interact with past knowledge

Subject Area: Social Studies and Language Arts(Topic: Indians)

Activities:
1. Reading on subject at level of ability in library- school, public, and home.
2. Digging in ruins in area.
3. Viewing centers with collections from previous findings.
4. Contact local resource people and collections
5. Making display of findings for personal collection.
6. Presenting to peers orally, visually and written reports.

Gifted
Characteristic #7: Questioning attitude, intellectual curiosity, inquisitive mind, intrinsic motivation

Teaching
Strategy #19: Evaluative situations (by use of monitoring the three networks on a 20 day basis.

Subject Area: Social Studies: an evaluation of the three major news networks coverage of Richard Nixon's programs as sent to Congress.(This was part of a Ph.D.course)

Activities: Five students were assigned the task of covering the network news organization; they noted the amount of time given on each network as well as the correspondents involved,etc. They also considered the attention given to comments made by members of the opposition. It was desirable to eliminate and pre-determine the potential variables.(It was possible to observe all three TV networks in consecutive order nightly. Certain patterns of bias appeared to develop)

Gifted
Characteristic #1: Willingness to examine the unusual.

Teaching
Strategy #7: Exploring mystery of things.

Subject Area: Science

Activities: Taking an element and examining how outside forces can affect the physical and molecular structure of the substance. How do these changes affect the materials we use in every day life.
Gases:oxygen,hydrogen----heavy elements---lead,gold, iron ; light metals ---radioactive materials---

Gifted
Characteristic # 2: Power of abstraction, conceptualization, synthesis; interest in inductive learning and problem solving; pleasure in intellectual activity.

Teaching
Strategy #4: Thinking of possibles;

Subject Area: Mathematics

Activities:
1. Working with 1 inch squares to find all possible pentominoes to complete a set.
2. Working out the least possible moves for completing a Tower of Hanoi. (Later- working out a formula for making the moves and calculating the number of moves-least number of possible moves.

Gifted
Characteristic ##4: Liking for structure,etc.

Teaching
Strategy #16: Adjustment to development

Subject Area:SocialStudies

Activities: Let group form actual working corporation; establish business. Let them identify needs, explore possibilities to fill those needs. Evaluate success, revamp, elaborate, i.e. adjust to developments as group's corporation progresses.

Gifted
Characteristic #8: Critical thinking, keen power of observation.

Teaching
Strategy #4 Thinking of possibles
#5 Provocative questions
#15 Process of invention
#18 Interact with past knowledge
#19 Evaluate situations
#23 Visualization skill

Subject Area : Social Studies (Junior high)

Activities: Given cartoon situations - shown briefly on overhead- then taken off- students are to react to what they saw or thought they saw. Also have to deal with another's interpretation of same scene,e.g.,on subway, a hand reached toward a person who is slightly off balance - is it a threatening or helping situation? The main strategy would be an evaluating of situations. Past experience will come into play. Child will have to try to visualize again what he has just seen briefly.

Gifted
Characteristic #9: Creativeness and inventiveness

Teaching
Strategy #4: Thinking of possibles

Subject Area: Social Studies

Activities:
1. Develop a plan for a city of the future.
2. Develop or plan an improved communications system.
3. Think of alternate ways of solving various past problems of international relations.

MANATEE COUNTY PROGRAM FOR THE INTELLECTUALLY GIFTED

Ask Good Questions to Help Students Think

*Students learn thinking by doing it.

*Asking good questions gives them practice.

*A step-wise sequence of thinking skills, from simple to complex, is called taxonomy.

*A taxonomy lets you plumb the depth of a student's understanding instantly.

Ask a question. If he can respond adequately, move to a more complex level of thinking. If not, move to a simpler level of thinking.

Sample Questions of HIGH LEVEL PROCESSES

HYPOTHESIZING	"What would happen if all laws were abolished?"
PREDICTING	"What do you think will happen next?"
EVALUATING	"Is it right to hurt people?"
SYNTHESIZING	"Can you draw a picture which shows how you feel about this?"

Sample Questions of AVERAGE LEVEL PROCESSES

ANALYZING	"How do you know?" "Why?"
INTERPRETING	"What is happening?" (personal experience rather than precise description).
INTERFERRING	"Ho do you think the boy feels?"
GENERALIZING	"What does this tell you about how people in China live?"

Sample Questions of LOW LEVEL PROCESSES

OBSERVING	"What does the picture show?"
RECALLING	"What do you use for this?"
COMPARING	"What is alike?" "What is different?"
CLASSIFYING	"How many kinds of transportation can you see?"

Patrick G. Mullins
1973

SECTION D

Facilitating Creativity

I. A Checklist of Your Attitudes and Goals (for teachers)

II. How to Encourage Your Child's Natural Creativity

III. Techniques of Creative Teaching

IV. Creative Talent: Guidelines for Stimulating It Plus Five Lessons in How to Do It

V. Encounter Lessons for Facilitating Creative Power

VI. Two Simulation Games - Parle and ECO

VII. Perception Box - A Creativity Vehicle

VIII. Boundary Breaking - A Group Interaction Encounter

IX. Let a Little Elephant Lead You to Creative Thinking

X. Teacher's Appraisal of a Creative Problem-Solving Lesson

XI. Classroom Behavior Observation Checklist for Creative Problem Solving Activity

X. Let's Help Children Write Creatively

XI. Experience Books

A CHECKLIST OF YOUR ATTITUDES AND GOALS

The following questions will help you to check on your own attitudes toward seeking change and innovation in your classroom. These attitudes will greatly determine if you should pursue a program for promoting creativity on your own, and its probable effect upon your future teaching practices. This questionnaire may serve your own personal guide.

1. Are you genuinely interested in each child's intellectual as well as emotional development?
2. Do you want to significantly increase the number of strategies you can use to cause children to learn?
3. Do you really want to accommodate intellectual differences that exist among all of your pupils?
4. Do you feel a classroom should be concerned with and accommodate the emotions and distinct personalities of each pupil?
5. Should creativity be rewarded, regardless of the subject in which it occurs?
6. Do you enjoy children asking stimulating questions which you cannot answer?
7. Are you comfortable with children who can think faster and figure out better ways of doing things than you can?
8. Are you able to tolerate divergent thinking, even if the class is noisy and disorderly?
9. Do you really care about dealing with emothional problems of a child, even if this disrupts your planned lesson?
10. Do you think pupils can be creative at the same time they are learning subject matter?
11. Do you think your classroom needs some new innovations and changes?
12. Do you think education should be primarily concerned with encouraging and developing certain thinking and feeling processes, rather than with teaching a subject?

If your answers are most "yes", you are ready to launch off into a Program for Promoting Creativity. If, on the other hand, your answers are mostly "no" or "maybe", you may first need to re-examine your attitudes and motives toward teaching before going further. One way of changing or modifying attitudes is to consider your reasons and own goals for classroom teaching. Once you have decided that you would like to do something different in your classroom, even though at this time you may not know exactly what, then you are more likely ready to use some of the procedures advocated by the Program for Promoting Creativity. Change will, no doubt, result as you work on the Program for Promoting Creativity, if you give it a fair chance over a period of time. Good Luck.

HOW TO ENCOURAGE YOUR CHILD'S NATURAL CREATIVITY

There's a lot you can do to help your youngster develop his marvelous potential for self-expression.

by Suzanne Newton

The welcome gift of creativity--where does it come from, what makes it grow? All young children possess in good measure the qualities on which creativity depends--curiosity, inventiveness, a zest for seeing and doing things. A parent's main job, then, in nurturing his child's natural creativity is simply to give the youngster plenty of chances to express and develop these traits. How? By doing a lot of agreeable things, the kinds of things Mrs. Bennett and four-year-old Jerry do, for example.

Almost every day Jerry and his mother spend time together trying out some new, interesting activity or exploring some new place. They sing songs, they build a bird feeder, they go to see the fire house, the aquatarium, the train yards. Mrs. Bennett really enjoys their cooperative ventures. "It's fantastic," she says, "how much fun it can be to do things with a four-year-old. Sometimes Jerry just astonishes me by being so grown-up in his responses. I really get a big kick out of this kind of friendly intimacy with him, in which I'm not telling him what to do but we're both adventurers together."

Jerry can't express his feelings as well as his mother, but there's no doubt that he enjoys and looks forward to their adventures, too. Sometimes he suggests things to do and places to go. Always, these adventures with his mother take precedence over other activities, and lately he has been drawing his impressions of some of their special times, using his new birthday box of brightly colored chalks. The train yards, in particular, came out so well that Mrs. Bennett hung the picture in a place of honor in the hall.

Many behavioral studies of nursery-age children amply show that all youngsters, except perhaps the grossly retarded, have an innate flair for creative expression. Jerry's enthusiasm and his talents are not at all unusual. It's the human condition to be curious, and when a child's curiosity is encouraged and constructively channeled, it leads quite naturally to creative expression.

Even at birth some babies show the quality of alert curiosity. On the day they're born some infants will follow a moving object with their eyes. And a few days later many babies show that they can recognize various objects. In a very short time virtually all babies indicate by their happy response to music, color, and movement that they are full of enthusiasm for the world around them. This zestful curiosity is the spur to learning, and when parents find ways to encourage this development they have the satisfaction of seeing their children become increasingly inventive and imaginative.

For several years Harvard's Dr. Burton White has been studying the effects of enlivening babies' surroundings by giving them plenty of brightly colored toys to look at and play with. Not only did the babies who were so stimulated learn to reach and grasp objects earlier than other babies, but they show more signs of pleasure, crowing and gurgling more frequently. They also learned to stay contented by themselves for longer periods of time than the other babies did.

Dr. White's study showed that stimulating a baby's curiosity has a kind of spiraling effect--the more attractice and interesting the environment, the more the baby learns, and the more he learns, the more he wants to learn.

However, parents should use good common sense in following this example. Their babies should certainly have brightly colored toys and they should see people, hear music and soon. But some reasonable balance should also be maintained. For just as adults need peace and quiet as well as stimulation, so do babies.

As a baby grows and starts to crawl, then to walk and talk, his parents will have many opportunities to encourage his independent exploration--within safe limites of course. A youngster at play in the sand box, riding a tricycle, watching a squirrel run up a tree, is being exposed to the kind of experiences which generate curiosity, creativity and a zest for adventure. By the time a child is three or four his parents can find many ways, as Mrs. Bennett did, to encourage him to develop his unique talents. Nursery groups, of course, are fun for children, but youngsters who are still at home can have plenty of stimulating experiences too.

This doesn't mean that parents need to buy a lot of elaborate toys. Sometimes the simplest playthings are the most satisfying. Well-designed blocks, good to look at, smooth and solid to feel, are so delightful to play with that they are an excellent spur to a child's imaginative building of castles, forts, moats, bridges--and corner gas stations, too.

Other good playthings that encourage creative thinking and manipulation are construction toys, newsprint paper, crayons, chalks, pencils, paints, and puzzles.

And don't forget picture books. It's never too early for a youngster to get the good feel, literally, of holding a book in his hands, turning the pages, looking at the pictures.

Naturally, a child needn't always be doing something. Sometimes he wants to sit and just daydream. And an essential part of the creative impulse is reflection --musings, either idle or purposive, by means of which a child assembles his fancies and wishes to make a pattern for future action.

Children often try things that are too difficult for them. Some thrive on challenge and are bound to succeed just to show that they can. Many more, discovering too late that they took on more than they can handle, simply give up. Parents can help their children avoid this kind of defeat by steering them carefully toward projects that are not beyond their present abilities.

For example, when six-year-old Pete decided he wanted to build something, maybe a tree house, his father suggested he make a small boat first. Mr. Johnson helped Pete cut out the proper shapes and showed him how to nail them together. Once Pete had mastered the fundamentals of measuring, sawing and hammering, he could attempt a harder project with confidence.

Similarly, when ten-year-old Pamela decided she wanted to make herself a dress her mother agreed, but wisely chose a simple jumper pattern which was hardly more difficult to make than an apron.

The point is to help keep a child's enthusiasm and creative urge alive by steering him away from projects way beyond his means toward a truly acceptable substitute--something which interests him, not merely something he can do. Then through the child's efforts and his success, partial or complete, he'll acquire confidence in himself and he'll also learn the value of seeing an undertaking through until it's finished. These two gains, plus the satisfaction he gets from doing something that is meaningful to him, will contribute enormously to his creative powers.

Creative people can usually come up with unique ideas and suggestions of many kinds whenever they're called on. One reason for their ability to do so may be that as youngsters they felt free to express themselves in their homes without being afraid that someone would make fun of them.

Communication between human beings depends on mutual respect. It's always good to remember that your child is a person in his own right and that his opinions, pictures, songs, and ideas are a part of him and therefore are to be respected.

A broad, balanced education contributes a great deal to a person's ability to think creatively. The more a child learns, the easier it is for him to see relationships between things and ideas. Dr. Eugene Burnette, who heads North Carolina's program for Exceptionally Talented Students, says he frequently encounters a boy or girl who has a consuming interest in one particular subject--music, mathematics, or mechanics, for example--to the exclusion of everything else. Often, although a child has the potential to do well in many subjects, his school performance will be low in all but the one he likes. Dr. Burnette doesn't think it wise to encourage this kind of narrowness. He feels that creativity is best developed by openness to new ideas in many fields. The creative adult is one who has learned to make use of a large body of knowledge coupled with a variety of experiences.

However, essential schooling is to creative growth, a child's spontaneous and unschooled impluses are also important. A youngster should feel free to say what he thinks and feels without fear of revealing himself to be foolish or ignorant. So it's wise not to be overly critical of your child's attempts or to thrust aside his naive ideas as if they were not worth considering. There should be a place in everyone's life for frivolous and even zany ideas.

When parents participate in a child's activities they are frequently delighted and astounded by the variety of ideas that capture his interest and by the number of complicated, intricate, and beautiful things he can make. Though of course there can be no guarantee that children whose creative impluses are given free and open expression will become fine artists, there is every good assurance that they will become skilled and happy people.

TECHNIQUES OF CREATIVE TEACHING

by

Ralph J. Hallman

Obstacles to Creativity

1. The pressure to conform is perhaps the major inhibiter of creative responses.

2. Authoritarian attitudes and environments repress the creative potential of young people.

3. Ridicule and similar attitudes destroy feelings of self-worth in students and therefore have a tendency to block off creative efforts.

4. Those traits which make for rigidity of personality inhibit creative expressions.

5. An overemphasis on such rewards as grades arouses defensive attitudes on the part of pupils and to that extent threatens inventiveness.

6. An excessive quest for certainity stills the creative urge.

7. An overemphasis on success drains off energies from creative processes and focuses them upon outcomes, perhaps upon some status symbol, or on the merely instrumentally valuable goals which might have been achieved.

8. Hostility toward the divergent personality, either on the part of teachers or peers, may serve as a cultural block.

9. An intolerance of the "play" attitude in connection with school work characterizes the environments which stifle creativeness.

Aids To Creative Teaching

1. The creative teacher provides for self-initiated learning on the part of pupils.

2. The creative teacher sets up nonauthoritarian learning environments.

3. The creative teacher encourages pupils to overlearn; to saturate themselves with information, imagery, and meanings.

4. The creative teacher encourages creative thought processes.

5. The creative teacher defers judgment.

6. The creative teacher promotes intellectual flexibility among the students.

7. The creative teacher encourages self-evaluation of individual progress and achievement.

8. The creative teacher helps the student to become a more sensitive person--to become more sensitive to the moods and feelings of other people, to all external stimuli, to social and personal problems as well as academic ones, to public issues, and even to the commonplace and the unknown.

9. The creative teacher knows how to make use of the question.

10. The creative teacher provides opportunities for students to manipulate materials, ideas, concepts, tools, and structure.

11. The creative teacher assists the student in coping with frustration and failure.

12. The creative teacher urges pupils to consider problems as wholes to emphasize total structures rather than the piecemeal, additive elements.

CREATIVE TALENT FOR STIMULATING IT
PLUS FIVE LESSONS IN HOW TO DO IT

GUIDELINES

Creative Talent -- The ability to go beyond; putting together seemingly unrelated information to come up with new solutions, new ways of expressing ideas; creative production.

We have broken down creative talent into the following areas:

Fluency -- The internal process of idea production is used to encourage as many ideas as possible. Sharing of ideas increases fluency and confidence.

Flexibility -- From how many points of view is the individual able to consider the problem. Spontaneous flexibility can often be measured by placing responses in categories.

Originality -- Considering the problem from unusual points of view. Relating the heretofore unconnected to solve the problem in a new or unusual way.

The process of creative production is best developed through steps which stimulate fluency, encourage flexibility, and inspires originality. The talent teaching process itself often follows a basic teaching pattern:

1. Presentation of item or problem for consideration
2. Time to think, list, enumerate
3. Share ideas and thought, revise, refine -- accept all responses, giving special praise to none
4. Incubation period
5. Share additional ideas
6. Select your best solution
7. Select your most original solution
8. Act in terms of solution, decision

It is often necessary to get children started. The enclosed activities encourage ideational fluency (the generation of ideas) while not specifically looking for a solution. Before children can be creative problem solvers, they must first learn creative expression.

INVENT SOMETHING

Objective:

To lead childrens' thoughts from the familiar to the unfamiliar. To encourage originality with something familiar then ask the children to produce an entirely new thing. Since you are asking questions that have no correct answer, accept all answers in order to encourage fluency, flexibility and originality.

Activity:

Invent new words that describe colors.

Draw pictures and use your new words to tell about them.

INVENT SOMETHING (continued)

Activity:

Draw an imaginary animal and give your new animal a name. Then let your neighbor give it a name. You might write a short story telling where your animal lives, what he does, what he eats.

Additional Activities:

Invent new verbs to describe things to do.
Invent new slang words to describe feelings, ideas, or quality.
Invent your own symbols of punctuation.
Draw an imaginary machine and tell what it does.
What new products might you find in the future?
How many rhythms can you think of to sing a particular song?
How many different verses can you make up to a particular song?
Write your own words and melody.

WHAT CAN IT BE USED FOR?

Objective:

List as many ways as possible for a given object to be used. This is helpful in developing ideational fluency. Evaluate responses in terms of categories to encourage flexibility.

Teacher:

Begin your class discussion with questions that will start the class thinking. Since you are asking questions that have no correct answer, accept all answers. Allow children to respond verbally. Let children share ideas. After sharing of ideas encourage them to list any new ideas they have.

Activity:

Hold up an umbrella (or any familiar object). What is this? Now, try to think of as many new uses as you can for an umbrella. Could it be useful if you were lost, if you needed to carry something. How many unusual ways can you come up with?

Additional Activities:

How many ways can you use an empty sack. How many categories could be made from the lists?

Display an object that the children probably have not seen before. Ask them to decide what they think it is. What they think its uses are? How many uses it could have.

Show a wrapped or unwrapped box or package. What do you think is in the box? How many different things can be inside? What might the contents of the package be used for?

DESCRIPTIONS

Objective:

List as many responses as possible. Number of responses measure fluency; categories of responses measure flexibility; unusual or unique responses measure originality.

Teacher:

On the basis of our senses we evaluate data and come to conclusions. Using the same set of information we often arrive at quite different solutions. The many solutions to a given set of information or using the same set of materials is another way to display the creative thinking skills.

Activity:

How many words can you make using the letters in a given word?
Example: breakfast (skate, freak, bake, steak)

Let each child add one page to a booklet to make a continuing story, or let each child carry on the telling of a story when another child stops.

Give children cut up words and phrases and see how many stories or sentences they can make using the same words.

How many words can you make using a given set of letters?

Invent "Tom Swifties"
"The desert is very hot," Tom said dryly.
"I can't find the candles," Tom said lightly.
"It's as easy as pie," she said sweetly.

MAKING A TITLE

Objective:

To increase fluency in writing and thinking. By encouraging many responses the child increases his ability to think, extends his vistas and as a result increases his creativity.

Activity:

Start a short discussion about titles and what they do -- list on the board:

1. Why have titles?
2. Are titles necessary? If so, when?
3. What would our literature be like without titles?

Show pictures that would inspire a story. Discuss things in the picture that might arouse different ideas.

1. What is happening in the picture?
2. Where are they?
3. What could happen next?
4. Would you like to be there?

Write as many titles to the picture as you can. Pick the title you like the best -- the title you think is most unique.

Share orally.

Teacher may want to carry this on to writing a story or poetry.

MAKING A TITLE (continued)

Additional Activities:

1. Look at home for interesting titles of books.
2. List slogans from advertising that you think are interesting or eye catching.

SUPPOSE YOU WERE . . .

Objective:

To put yourself in the position of being something. Being the thing and describing your feelings, attitudes, and concerns by listing, telling, acting out; etc.

Teacher:

Being something else allows children to see their world from a whole new, creative point of view. The process of role playing and acting out is an excellent way to help children "be the thing" and "act as the thing." This can be done individually or with several people working together.

Activity:

Be a machine or part of a machine. Suppose you were the wheel on a roller skate. What would make you feel good? What wouldn't you like? How would you feel if you belonged to a beginning skater? A professional skater?

Suppose you were a fan belt of a car.

How would you feel if you were a screw driver being used to put screws into a new toy.

Activity: Being an object . . .

1. Suppose you were a library book, how would you feel if you got torn? What wouldn't you like to see happen? What would you like to happen?
2. Suppose you were an old can left out in the rain. How would you feel? What would you think?
3. Suppose you were a flag. What flag would you be? What would make you proud? Sad? What sights have you seen? How did they make you feel?

Activity: Being a person

1. Suppose you were president. What problems do you have? What makes you angry, sad, happy? What would you like people to understand that they don't seem to understand?
2. Suppose you were not liked by anyone in the class. How would you feel about school? How would you treat people? How would you get other people to like you?

3. Suppose you were new in a school and couldn't speak the language that the other children spoke?

MANATEE COUNTY PROGRAM FOR INTELLECTUALLY GIFTED

ENCOUNTER LESSON
FOR FACILITATING CREATIVE POWER

The use of man's inner strengths and his perception of these inner strengths aids in the further development of his feelings about himself or what can be called self concept. If one values himself, believes himself to be capable, and generally expects to succeed in what he attempts, he is more free to venture into the unknown, challenging himself with new goals. Man achieves using his individual creative power as a result of using his individual strengths.

An encounter lesson is a lesson based on four principles which can be expresed in terms of teacher behavior. The teacher will:

1. help the student think about who he is and what he can and ought to do.
2. help the student to feel valuable and worthwhile
3. help the student to see learning as relevant to his individual needs.
4. help the student to develop and maintain a learning atmosphere that reflects psychological safety and freedom.

Encounter lessons are of short duration, lasting from twenty to thirty minutes. They are an 'involving' activity in which the students, usually in small groups of 8-10, actively see, hear, taste, touch, smell and react to central stimuli. The objective is an 'encounter' with the stimulus, ideas and others. The activities should be as open-ended as possible, thus providing each child an opportunity to bring his uniqueness to the task.

Mrs. Dorothy Sisk

Encounter lessons may be used to introduce group members, to increase understanding within a group, and to promote interest in subject matter through improved self-image. Most of the encounter lessons included in this publication were written within a subject-matter framework. Following are some examples:

1. "Nonverbal Communication" - Use this activity in a group where a majority of the people do not know each other. After the group has assembled, ask them to select the person they feel most comfortable with in the group. In doing this they cannot speak and must not choose someone they already know. After the activity is over, have them explain why they decided the way they did. (Note: One person may be chosen by one or more other people.)

2. "Eyes" - Cut eye sections (from nose to forehead) from magazines. Try to get a variety by choosing different facial expressions. Pass these sections out to either individuals or groups. Then ask them to decide what mood is suggested by the eyes or in what situation that person is involved. Variations: (1) Ask students what role this person fills in society by looking at the eyes. (2) Ask students to tell how the eyes make them feel.

3. "Confusion" - Divide the class into five groups. Give each group a stack of magazines. Each group is to create a collage of pictures, words, etc. that will get across the idea of "confusion." After each group finishes its collage, each person in the group must explain why certain pictures or words were chosen to represent that particular idea. This may be used to introduce various abstract ideas--happiness, love, loneliness, etc. The students will be able to express concrete things that relate to the abstract.

4. "Behind the Mask" - Ask students to bring in photos from magazines showing a singular person or face. In class, students are requested to write a paragraph describing the personality of their photo face. Each student reads his paragraph to the class and shows the photograph. Instructor and students may ask each other

questions about this "person." "What is his religion?" "What is his goal in life?" "Is he happy now?" "What does he like to do most?" Responses by the paragraph writer will begin to show characteristics of the writer through the mask of the photo.

5. Divide into groups of 4-8. Pretend that each group is preparing to be enclosed together for six weeks in a fallout shelter to avoid a radiation invasion which will begin in 24 hours. The group may choose three objects to take for amusement during their isolation. A unanimous decision must be reached on each object. Time limit: 12 minutes

6. Divide a large group into smaller groups of from 3 to 7 people. Each group is to pretend that it is a new nation which has just received its independence. Each group must then do one or more of the following things: (1) Design a flag. (2) Choose music to express the theme of the new country or choose music for the new national anthem. (3) Pick a motto. (4) Decide upon the form of government. (5) Decide upon the military setup and requirements. (Do not try to do all of these at one time.) A spokesman is then chosen from each group to present to the whole class the selections and the reasons for the selections.

7. "Toy Factory" - The Fisher Price Toy Industry plans to open a factory in Saudi Arabia. Because of your creative ability and position with the company, you have been asked to design a toy suitable for massive sale in Saudi Arabia. You should include the toy's qualities and the advertisement for it. Present your toy in your group; then the group must come up with a composite toy, its qualities and advertisement.

8. "Mission: Number System" - Situation: A planet has just been discovered which has an intelligent life form. You have just returned from a visit to the planet and are part of a committee selected by the Federation of Earth Government to aid the new planet in intelligent growth. Your mission is to help them develop a number system that will facilitate their intellectual growth and achievement.

   Method: Students are divided into groups of five. Each group is to devise a number system and some of its properties that would enable the new-found beings to develop so that they could merge into the intelligent life community. After approximately 20-25 minutes, group discussion should stop and each group present its decision to the class.

   Purpose: It is hoped that the students will see the reasons why our number system developed and will try to help these beings develop a system of their own instead of forcing our system on them.

9. Objectives: (1) to create an awareness of self and others by the use of words which show value and worth, (2) to stimulate creativity in a group interaction experience

   Instructions: Give each member of the group an index card. Ask the following boundary breaking questions and tell the group to write their answers on the card: (1) What is the most beautiful sound you have ever heard? (2) What is the ugliest thing you know? (3) Select a word that you feel best describes people of your age. Divide the class into small groups 3 or 4. Inform each group they are to create a poem using the words they have written on the cards. Give them the following rules: (1) Every word written on a card must be used. (3) No specific style or form is required for the poem. Allow each group about twenty minutes. Ask each group to select someone to read its poem. After the poems have been read, ask each group to respond to the following questions:

   1. Which answer surprised you the most in your group?
   2. What word in your group was most difficult to use?
   3. Did any of the members of your group have any words in common?
   4. Which person do you think is the most sensitive to life?
   5. Which answer, from another member of your group, pleased you the most?

6. Which person in your group seemed to be the leader?
7. Which person do you think had the deepest insights?
8. Who decided the form of your poem?
9. What person did you learn the most about in your group?

(At this point, the leader may want to ask more questions about creating a poem. This is left to the discretion of the leader and his purpose of the lesson. However, this encounter lesson is designed so as to allow the leader to move into creative writing.)

10. Divide the class into groups--no more than 6 students to a group. Assign a poem to each group and tell groups to keep their poems secret. Each group is supposed to express or reinforce the meaning of its poem through some other medium: photographs, collages, films, songs, drama, dance, etc. As examples of reinforcement, the teacher might cite Newport and Salem ads with the cool greens and blues suggesting the effects of menthol. Coke and Pepsi commercials with familiar, friendly, concerned tone through photography and music are also examples. A "game" might be made out of this by reading all poems through twice and then letting each group present its work, not identifying the poems. The students can then try to select which poem goes with which presentation.

11. "Blown Mind Journal" - A notebook in which each student writes an imaginative piece during a 15 minute period of class - "No-holds-barred" type of assignment--poetry, narration, exposition, etc. "Any subject is legitimate; any structure is legitimate." Art work and music might be used as stimuli for this exercise. Since this is a short assignment without restrictions, it can be used as often as the teacher wants.

12. Have students interact by playing the metaphor game--comparing classmates to animals, colors, furniture, food, etc. Let them explain their choices to each other.

13. Students sit in a circle with their backs to the center. One student begins a story (a fantasy) with a sentence that evokes identification and visual image: "I am in the midst of a crowd of people--at least I think they're people." Let students add to the fantasy by free association of phrases or sentences. Let students return to their seats to elaborate in their journals on one or more aspects of the fantasy.

14. Have students bring a piece of "junk" from home to contribute to a "junk sculpture." Working in groups of 4 or 5, have the students create a sculpture of a man or woman from the junk they have collected. After completion of the art work, let students write in their journals a poem, story, or "character study" of the sculpture. (Man or woman is only a suggestion, of course.)

15. Assignment: Tell us something about yourself--what you are like, something about your family, something about your life, anything you want to tell us BUT you cannot use words.

Expect looks of astonishment. Explain that this is an exercise in communication and creativity and that the contributions should be as unique and different as the students themselves. Place the results on display and take time to walk around and inspect each offering. Let the students "read" each other's to find how well the student has communicated his ideas. The originator may correct misinterpretations and add any things which may have been overlooked. Affective results include feelings of self-confidence and self worth.

16. "The Graffiti Game" - Tell the students to wear old clothes on test day. Divide the class into 5 or 6 groups. Put 4-foot sheets of butcher paper on the floor, on which you have written comments and questions with magic maker or crayon. (Write nonlinearly--here and there.)

Rules: (1) Each group begins with an A (100 points). (2) The object of the game is to fill the sheet with as many pithy comments, questions, symbols and drawings as possible within the class period. (3) The action, reaction and interaction of intra-group communication may only take place via written symbol; originality is encouraged. (4) No one may talk; ten points will be deducted from the team score per talking member. (5) Other points may be deducted for irrelevant material or blank areas indicative of lack of knowledge (not reading the material), lack of involvement or nonthinking. The graffiti sheets may be taped on the wall. The teacher may circulate and insert the word WHY? if it is needed with any comment.

17. Divide into groups of 4-5. Each group starts with slip of paper containing nursery rhyme, poem, title of book, adage, etc. The group must act out the material without speaking at all. Variation: The group must jointly show facets of a particular emotion --without words. This would encourage creative thinking, flexible thinking, etc.

18. Have the students write on a slip of paper a character from literature that they admire very much. Then collect the slips in a box, have each student draw one, and let each student explain what the character means to him. Let the writer then tell why he likes the character so much. All note the similarities and differences in the information.

19. Have students sit in a circle (on floor if possible) and place a pile of magazines in the middle. Each student will take the person to his left and find a picture of something that represents a likable trait or characteristic of that person. After five or ten minutes, each one will show his chosen picture and describe the trait.

20. "Decision Making" - Divide the class into five groups. Present each group with the following problem: You must evacuate the U.S. and settle on another planet which has the same physical characteristics as earth. Your group can only take three items. What would your group take and why? (You must be unanimous.)

21. Have the class write down their main worries or problems. They do not have to sign names to the papers. Use their lists to compile a class list. Divide the class into 5 or 6 groups. Allow each group to draw lottery-fashion a problem to analyze. Take the problems from your class list. First, the group members should consider the cause of the problem. Secondly, they should list various ways of coping with the problem. Each group will select a spokesman to present the opinions of the group to the class. Continue to use this exercise throughout the year. Encourage the class to turn problems to you which the groups can try and solve. The most essential element of this activity is that the students do not have to identify their own problems and,therefore, may be more open.

22. Objectives: To break barriers in groups and get each member contributing; also to encourage creative thinking--This lesson combines encounter and problem-solving techniques.

Procedures: Divide the class into four groups of approximately 4 or 5 each. Give each group a collection of 5 articles.

Group 1: a safety pin, a cotton ball, one sheet of any color construction paper, a glass ash tray, and a wire whip (from kitchen)
Group 2: a bottle opener ("church key" type), a spool of any color thread, a Q-tip, a balloon, and a dinner plate or saucer
Group 3: a back scratcher, a crayon, a piece of any color cloth, a hand mirror, and a paper clip

Group 4: a large rubber band, a piece of newspaper, a pair of pliers,
a glass cup, and a hand strainer (from kitchen)

Explain problem-solving technique. Then let each group get to work. Their problem is that they must come up with a "useful" 20th Century gadget that is made from all five of the items in the group. Suggested group work:

a. get idea for what wach part could contribute to the whole--look at all possible uses of each item
b. narrow chóices for each; then decide what whole object could be conceived
c. work together in getting pieces to fit while putting whole item together
d. have a coordinator from each group explain its item to the class while a demonstrator from each group is at work

Observations from group work:
What was necessary fro group to begin?
What was necessary for group to continue working on problem?
What came from group work?
Did all members of group participate and contribute?
How did you feel as a member of group--satisfaction in product, sense sense of accomplishment, etc?
What was relation of each member of group while working on problem and item?

MANATEE COUNTY PROGRAM FOR THE INTELLECTUALLY GIFTED

PARLÉ

Social Studies: Simulation Game

Situation - The country of Ilan, has just been overthrown by a rebel Juan Tio and his band. Ilan was a former dictatorship. Each country should decide on its foreign policy, particularly as it relates to further articulation with Ilan. Choose a leader and a negotiator. Each country's history, educational system, religion and natural resources must also be decided upon by group consensus prior to formulating a foreign policy.

Use the chart below to help your group begin: For example, you might decide your government is a dictatorship, of Moslem religion, etc.

COUNTRY DATA SHEET

GOVERNMENT

NATURAL RESOURCES

RELIGION

EDUCATIONAL SYSTEM

HISTORICAL BACKGROUND

GAME PHASES

Class members may number 1-6, Number 1, citizens of Baban; 2 of Ilan, etc.

PHASE 1 - Group decision on basic country data sheet, as well as leader and negotiator to be chosen — 15 minutes

PHASE 2 - Declaration Phase - Country's name, government and leaders announced. — 10 minutes

PHASE 3 - Foreign Policy Phase - Plan basic foreign policy and strategies. — 10 minutes

PHASE 4 - PARLÉ PHASE — 20 minutes

PHASE 5 - POSITION STATEMENT - Position statement read by leader or negotiator. — 10 minutes

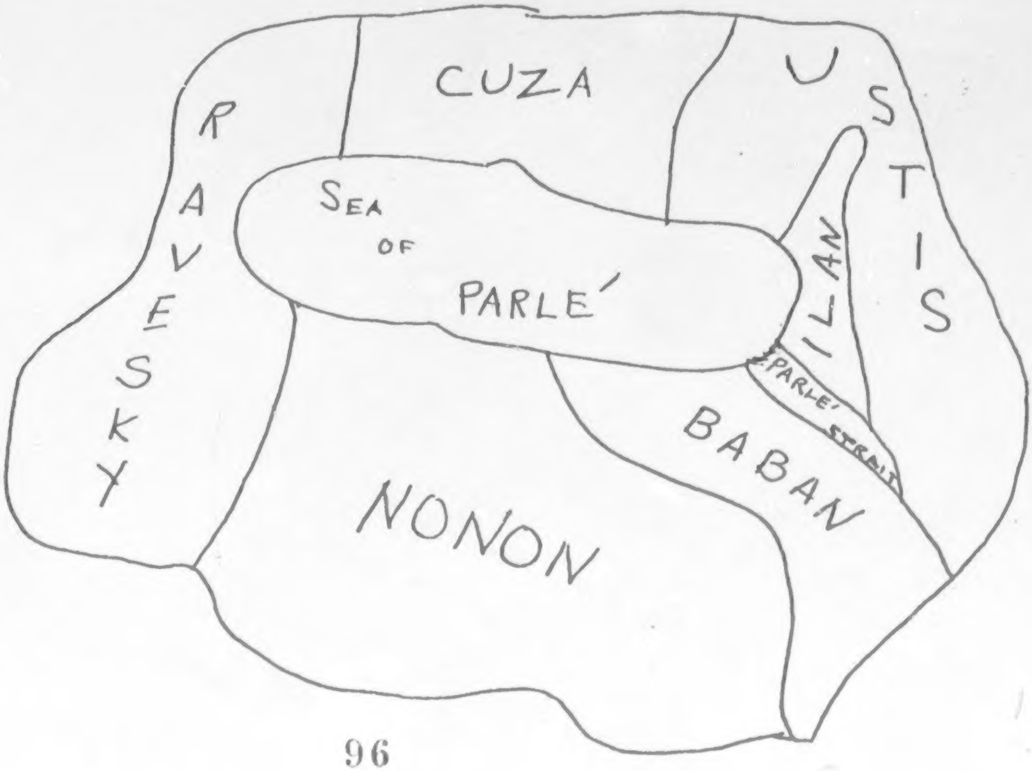
Game may continue with new situation. Winner is country or countries with most points.

Need a classroom: half-period only - re-assemble for discussion of how individuals feel (disappointment).

Simulation Game: PARLÉ
Map of Parlé

RELATIVE WEIGHTING SHEET

COUNTRY	NATURAL RESOURCES	DEFENSE	IDENTITY	TOTAL
1.Baban	500	400	150	1050
2.Ilan	100	550	150	800
3.Ustis	200	200	150	550
4.Cuza	400	150	150	700
5.Nonon	300	100	150	550
6.Ravevsky	500	350	150	1000



MANATEE COUNTY PROGRAM FOR INTELLECTUALLY GIFTED

Simulation Learning Activity: ECO

Overview: (1) Students are made aware of some of the economic problems in their communities. (2) Students develop an awareness of the importance of "consensus" and "compromise." (3) Students share some of their assumptions on the functions as well as goals of big business. (4) Students learn to fabricate. (5) It is "20th Century."

Problem: The cities of Deria, Rope, and Mino are about to experience an economic crisis because each city will lose its major industry in six months. Three industrial companies plan to relocate in the South. All three would like to locate in the same city. Divide the class into 4 groups. One group must have only 3 students who will represent the three industrial companies that plan to move South. The other groups will represent the cities of Deria, Rope and Mino. (Students may draw for cities.)

Situation I: Each city will spend 30 minutes preparing a brief to be presented to the industrial group orally. While the cities are preparing their oral briefs, the industrial companies will review the written material they have about each city. The industrial group will make a tentative choice.

Situation II: (20 minutes) Each city will send a representative to the industrial group to make a five-minute presentation. (question and answer period of 5 minutes)

Situation III: (5 minutes) Industrial companies will vote and they will give an oral report on the result of the voting.

Situation IV: class discussion

CHART FOR "ECO"

Place this material on the board or use the overhead projector so all may see.

Do not fill in names until after students have been assigned cities.

W - White   B - Black

All cities have natural seaports and miles of virgin forest.

Scale: 1 = inferior, 2 = below average, 3 = average, 4 = above average, 5 = superior

City	Housing	(% of the Total White Population and % of the Total Black Population) Welfare	Population	Government	Transportation	Education	Other Recreation
Deria	3	50% W 50% B	70% W 30% B	3	4	3	2
Rope	4	20% W 10% B	60% W 40% B	3	3	4	4
Mino	2	40% W 60% B	55% W 45% B	3	5	2	2

MANATEE COUNTY PROGRAM FOR INTELLECTUALLY GIFTED

PERCEPTION BOX

(A Creativity Vehicle)

The perception box is a twentieth-century vehicle to convey and share ideas and stimulate immediate interest. It breaks down the barriers which are often found between the student and subjects, classes, schools, inter-communities, intra-communities, age groups and socio-economic levels.

The perception box allows involvement for students who are "turned off" by traditional methods of teaching. It encourages creativity and involves the efforts of many people.

The list below suggests ways in which a box can be used. However, this list is in no way complete, and you will undoubtedly find many other ways to use a perception box. Suggested topics for boxes:

- motivating device for a unit
- nostalgia box
- "future shock" box
- personal values box
- "try it, you'll like it" box (reading, student suggestions)
- inventions box
- signs and symbols box
- homemaker's box (fashion, cooking, decorating)
- "tune-in " box (music)
- media box
- board-of-education box
- stimulating creative writing skills
- inter-intra community awareness box (to be exchanged with other classes across the state or inter-state)
- "buddy" box
- comparative values box (parent-student, teacher-student, community-student)
- vocabulary box
- ecology box
- mystery box
- sports box
- anatomy box
- "turn-on" box
- art box

DIRECTIONS

The following steps are a guide to making your own box and evolved from a UNC-CH methods class with Dr. Sterling Hennis as professor: (1) Find an empty cardboard container and bring it into the classroom. (2) Give them a topic, or ask them to choose one. It might be the Thirties, the Civil War, Food, or Civil Rights. Something BROAD with many possibilities. Avoid topics like Holography and Henry the Eighth. (3) Ask them to scavenge in attics, rummage in libraries, second-hand book and records stores. Inspire them! The box must be filled to the very top. Allow them to work on their own and in groups. Lend them cameras and tape recorders with which to interview people. Put them to work writing letters to museums and art galleries for postcards. (4) Gather some material yourself. Concentrate on items which you can obtain more easily than they. Photocopy stuff in university vaults. Keep people busy without organizing. Let the stamp collectors collect stamps, let the cooks cook. Watch the box fill. (5) Stop the box-making when there are ten times as many items as there are people. Thirty members equal 300 items. Give a lesson topic; empty the box on floor for general inspection. Everyone doesn't have to see everything, but everyone should have the chance to see everything which interests him. (6) Put the box in the school library so that others can use it. Next year have a new class and add another 300 items. Make more boxes until the library contains more boxes than books.

MANATEE COUNTY PROGRAM FOR THE INTELLECTUALLY GIFTED

BOUNDARY BREAKING

Objectives:

Boundary breaking is a group interaction encounter experience which works toward the end of creating a sense of community by bringing people together in groups which might not come together otherwise.

A further objective is the creating of awareness of others by the use of questions which tend to go beyond superficial depth.

Instructions: Leader

1. Do not tell the participants about the Synthesis Set beforehand.
2. Switch to the Synthesis Set while the interest is still strong.
3. Always do all of the Synthesis Set. THIS IS THE PRIME PART OF THE SESSION.
4. Sit around a table in a circle. The circle is to be as tight as possible. Name tags assist in relating answers to persons.
5. The leader is always also a participant.
6. Responses are repeated by the leader because of the possibility that someone was not heard.

Instructions: Participants

1. Each person is to answer according to the way in which he interprets the question. There will be no discussion or debate. Do not worry about making identical responses, if the response is honest for you.
2. Each person is to answer all questions.
3. No one is to be allowed not to answer.
4. Participants may pass while they think, but the leader always come back to them.
5. While each person is answering, watch him closely; you can learn a great deal by the look on the face, the movement of the hands, the turn of the head....and by what they DO NOT SAY.
6. We are concerned with the discovering of each other.
7. We are here to listen.
8. We are here to look for the person that is each of us. Too often in life we have been so busy defending our own little world we have never listened to all the hearts beating around us.
9. As each person answers, collect those answers in your head-develop an idea of each person.
10. Once more the key word is LISTEN....LISTEN....LISTEN.
11. If we do all this, maybe a few of the boundaries will come down.

Structured Conversation....Boundary Breaking

1. Who is the man most relevant to our times?
2. What is the title for the last book you read?
3. What is the best movie that you have ever seen?
4. When you think of reality, what comes to your mind first?
5. What is the most sacred thing you know?
6. What is the ugliest thing you know?
7. On what basis do you select your friends?
8. What is the best regular program on television?
9. What is the greatest value that guides your life?

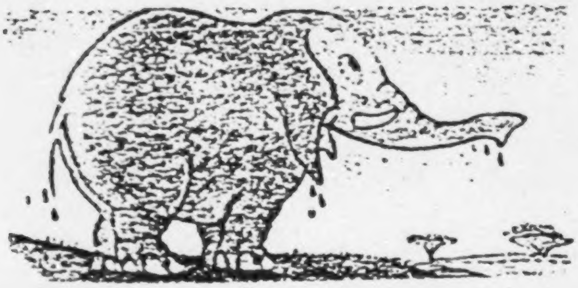
10. If you could smash one thing and only one thing, what would you smash?
11. If you could be any animal other than man, what would you be?
12. What is the greatest crime one can do towards another?
13. What do you want to be doing ten years from now?
14. For what do you think you would lay down your life?
15. If you were making a phonograph record and you wanted to put the sounds of violence on that record, what sound would you use?
16. What sound would you put on that record for beauty?
17. If the atomic bomb were going to fall in ten minutes, what would you do in those last ten minutes?
18. If you could travel to any place in the world, where would you go first?
19. How many children make an ideal family?
20. What is your favorite sport?
21. What emotion is strongest in you?
22. What would you like to have on your gravestone?
23. Select a word that best describes your total life at this moment.
24. What is your biggest worry?
25. What is the most beautiful thing you have ever seen?
26. What do you think people like in you the least?
27. What do you think people like in you the most?
28. When you think of tragedy, what do you think of?
29. What person has the most influence on your life?
30. What would you like to be talented in that you are not talented in at this time?
31. What gives you the most security?
32. What institution is in the most need of changing?
33. Select one word that best describes a sunset.
34. When do you feel the most lonely?
35. Select a word that you feel best describes people of your age.
36. You have seen certain people all year and you have not spoken to them...why?
37. What is the biggest waste you know of....in terms of a product?
38. What embarrasses you the most?
39. What is your greatest fear?
40. What is the greatest piece of music ever composed?
41. What do you love the most?
42. When you think of children under the age of three...what comes to your mind?
43. What color is love?
44. What one day in your life would you like to live over?

Synthesis Set

.....Answer these questions in the light of the answers given by the group.

1. Which person did you learn most about today, in this session?
2. Which person do you want to learn more about?
3. Which person do you think hid himself from you the most?
4. Which person do you think was the most honest?
5. Which person do you think you could get along with best over a longer period of time?
6. Which person do you think had the deepest insights?
7. Which answer surprised you the most?
8. Which person is the most sensitive to life?
9. Which person enjoys life the most?

10. Which person do you feel is the most like you?
11. Which person do you feel is the least like you?
12. Tell the image you would like to project to the group.
13. Tell the image you do not want to project.
14. What area of conversation do you find the hardest to talk about?
15. If you could have one season all year long, what would it be?
16. Of what are you the most certain?
17. If you could not live on the North American Continent, where would you like to live?
18. Select a word which best describes school.
19. What event in the past year stands out most in your mind?
20. Name the most unreasonable thing you know.
21. Your closest friend is being place in solitary confinement for 60 days, and the court has said that you may go in his place. Would you go?
22. If you could meet any person living in the world today, whom would you like most to meet?
23. What decisions are hardest for you to make?
24. What "discipline" is most needed today?
25. What is the best thing about your home?
26. What is the last thing that you would give up?
27. What is the greatest sound in the world?
28. When do you feel the most free?
29. When do you feel most joy?
30. Which answer, from another person, has pleased you the most?



LET A LITTLE ELEPHANT LEAD YOU TO CREATIVE THINKING

You can train yourself to be a creative thinker by applying the following principles. You'll be surprised at the ideas that will just POP OUT! - ideas for improving anything - a toy, a program, your club, a dress or even your bedroom. Once you know the system, it's EASY! HERE'S HOW: Examine a little stuffed toy elephant and think of all the ways in which you could make it more fun or more interesting to play with.

HERE ARE THE PRINCIPLES	HERE ARE A FEW OF THE IDEAS
1.ADAPTATION	Make it do tricks
2.ADDITION	Give it a saddle
3.CHANGE COLOR	Paint stripes on it
4.CHANGE SHAPE	Make the ears floppy
5.COMBINATION	Put it in a jungle
6.DIVISION	Cut him into a puzzle
7.HUMANIZATION	Give him a "brain"
8.MAGNIFICATION	Make him bigger
9.MINIFICATION	Make him smaller
10.MOTION	Make him squirt water
11.MULTIPLICATION	Make it have babies
12.POSITION	Make it kneel
13.QUALITY OF MATERIAL	Make it of candy
14.REARRANGEMENT	Make its skin shed
15.REVERSAL	Make it turn inside out
16.SENSORY:EAR,EYE	Make it sing or wink
17.SENSORY:EMOTIONAL	Make it look happy
18.SENSORY:SMELL,TOUCH	Make it fuzzy and smell good
19.SIZES	Make it have other size ears
20.SUBSTITUTION	Change his toenails to buttons
21.SUBTRACTION	Take off its tusks

MANATEE COUNTY PROGRAM FOR THE INTELLECTUALLY GIFTED

TEACHER'S APPRAISAL OF A CREATIVE PROBLEM SOLVING LESSON

Demonstrator__________________ School______________________ Observer__________________

Date__________________ Rm. No.__________ Grade Level_______

PLEASE INDICATE WITH AN X THE EXTENT TO WHICH YOU AGREE WITH EACH OF THE FOLLOWING STATEMENTS

	Unable to observe	little	somewhat	much	A great deal
1. Do you think a problem was structured so as to lead to the discovery of a new concept or understanding?	____	____	____	____	____
2. Were you able to observe a diversity of pupil responses in the initial stages of the problem?	____	____	____	____	____
3. To what extent do you feel that the pupils drew upon personal past experiences to solve the problem?	____	____	____	____	____
4. To what extent do you think the teacher "structured" the discussion?	____	____	____	____	____
5. Do you feel the pupils understood that there is always more than one answer or way of arriving at the solution to a problem?	____	____	____	____	____
6. Was a classroom climate established whereby each pupil would feel free to contribute to the class discussion?	____	____	____	____	____
7. Did pupils contribute most of the information and ideas that were necessary to arrive at a solution to the problem?	____	____	____	____	____

	Unable to observe	little	somewhat	much	A great deal
8. Did pupils discover meaningful new relationships between the information and ideas they contributed to the problem?	_____	_____	_____	_____	_____
9. Were the pupils allowed and encouraged to react to other pupil's responses?	_____	_____	_____	_____	_____
10. Did pupils vie with each other to answer questions?	_____	_____	_____	_____	_____
11. Do you feel the majority of the pupils "learned" the concept?	_____	_____	_____	_____	_____

12. Write any comments you may have concerning the demonstration lesson.

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GIFTED MANATEE

4. Were you able to prevent all or part of the class from forming a premature opinion or from adopting one child's opinion by:

____ A. not permitting any one child or yourself to dominate the discussion.
____ B. encouraging group uncertainty and group interactions
____ C. encouraging as many responses as possible from as many pupils as possible.
____ D. Other. Expalin.____
____

5. Most groups have one or two children who do most of the answering. Were you able to get different pupils to respond to the problem by:

____ A. encouraging a child even if he was on the wrong track?
____ B. relating the problem to the children's own background.
____ C. deliberately calling on the non-contributing members of the class.
____ D. giving up, realizing that all pupils cannot contribute at all times, or that each group has its leader.
____ E. Other. Explain.____
____

6. Were you able to get the children to see how the new concept related to their personal lives by:

____ A. pointing out the concept's relationship to their daily lives.
____ B. asking pupils to find the concept's relationship to their daily lives.
____ C. giving up, realizing that some knowledge is "booklearning" unrelated to daily lives.
____ D. Other. Explain.____
____

7. Were you able to get the children to examine each other's ideas and yours by:

____ A. pointing out to them that an idea which has been held true for a long time is sometimes erroneous in light of new information.
____ B. pointing out that no one person can know everything.
____ C. other. Explain.____
____

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GIFTED MANATEE PROGRAM

MANATEE COUNTY PROGRAM FOR THE INTELLECTUALLY GIFTED

CLASS BEHAVIOR OBSERVATION CHECKLIST
Creative Problem Solving Activity

Teacher's Name________________________________ Room No.________ Grade____________

School____Date_________

THE FOLLOWING QUESTIONS HAVE ONE OR MORE ANSWERS. PLEASE CHECK THE ANSWER (S) WHICH BEST DESCRIBE YOUR CLASS' BEHAVIOR.

1. In leading your class through the beginning stages of a creative problem-solving activity, were you able to:

____ A. present the problem to the class and note their reactions
____ B. demonstrate the value of divergent views of the same problem by deliberately provoking disagreements.
____ C. accept novel and unconventional solutions in an attempt to get as many solutions as possible.
____ D. encourage group agreement, but still permit unusual responses if they were pertinent to the problem.
____ E. encourage group agreement, on the description or perception of the problem.
____ F. Other. Explain.____
____

2. If a pupil response was unclear or definitely unrelated did you:

____ A. clarify the pupil's response.
____ B. ask the pupil to clarify it.
____ C. ask another pupil to clarify it.
____ D. simply acknowledge the response and go on.
____ E. ignore the response and go on.
____ F. Other. Explain. ____
____

3. Did you direct the class toward unity in defining and stating the problem by:

____ A. utilizing praise to obtain the desired response.
____ B. insisting that the class pay attention to all the evidence.
____ C. pointing out overlooked evidence until one or more pupils offered a logical, consistent explanation of the problem.
____ D. Other. Explain.____
____

LET'S HELP CHILDREN WRITE CREATIVELY

1. Work for vivid imagery.
    - a. Read vivid selections from good literature that will make it natural for children to "listen for pictures". Help them to appreciate words that bring sights, sounds, odors, and feelings to them.
    - b. When there is absolute quiet, ask children to see what they can hear. Encourage use of descriptive words.
    - c. Let them actually feel the cat's soft fur, the fluffy kitten, or the pieces of velvet and corduroy.
    - d. Make them aware of the "pounding rain", "the gentle rain", " the beautiful colors of the sunset", "the rustling autumn leaves", and all of the beauties of nature.

2. Work to build vocabulary.
    - a. Use of the above suggestions.
    - b. make lists of living verbs as "The wind howled,groaned, whispered, raged".
    - c. Make lists describing how the children felt, as "terrified, frightened, thrilled, excited, etc.".
    - d. Read highly descriptive passages and list words that make them see pictures, or use senses in any way.

3. Let pupils progress gradually toward individual writing.
    - a. By finishing pieces of work
        1. let them finish an unfinished story or letter
        2. let them finish a poem of which a few lines have been written.
    - b. Have pupils do some cooperative writing.
        1. Teacher and pupils share an experience. Have pupils write their impressions and when papers are collected, teacher select phrases to make a poem (free verse).
        2. After a shared experience, children dictate a list of terms or descriptive phras to teacher who writes them on the board. From this list, children can launch out into individual descriptive paragraphs.
        3. Enjoy story telling or building a story as a group. (When freed mechanics of writing, ideas flow freely). Children then write the story.
        4. List phrases cooperatively to describe any particular subject as, "These are the Loveliest Things I Know", "The Quietest Things", "Smells I Like".

4. Provide time for writing experiences. A good idea is to have a short period--perhaps five or ten minutes--every day for them to practice putting their thoughts on paper. This should be in addition to other regular language periods.

5. Give them opportunities to share and a reason for writing. Examples:
    - a. Use on an assemble program.
    - b. Choral reading of pupil's work.

    c. A "Peep Box" or a "Story Bank" or "Our Secret Story Box".
    d. Individual files for work to be kept or shared.
    e. Bulletin boards for displaying work.
    f. Reading original composition to the class.
    g. Teacher reading child's work to class. (Hearing someone else read it aloud makes them feel wonderful!)
    h. Teacher compile booklets of the poems and stories.

6. Much individual writing should be encouraged.

    a. Free verse.
    b. Poetry--humorous and more serious.
    c. Jingles and rhymes.
    d. Limericks and nonsense verse.
    e. Story writing--all fiction.
    f. Narrative with factual background (Colonial Days background done in first person).

7. Procedures to be avoided are:

    ★a. Never give undue or underserved praise.
    ★b. Never let a child's work be ridiculed.
    c. Do not work for rhyme--but do not discourage genuine ideas that are expressed in rhyme by natural "Rhymers".
    ★d. Do not give too much direction or you will "squelch" them, but do not hesitate to help them get started. Make suggestions by asking them questions that will make them think out their problem.
    ★e. Do not work for perfection in spelling, grammar, punctuation or form in creative writing. If use requires a finished product, work with the individual on necessary corrections.

FIRST AID IN CHILDREN'S WRITING

1. Picture File (Pictures that tell stories)
2. Phrase File (On small oak tag have phrases which children can select and weave into a story. Ex. "a bag of popcorn", " a magic potion", " an unexpected visitor".
3. Opening Sentence File
   Ex. "Once there was a little boy who loved snow until one day. .", "Even the other ghosts were frightened".
4. Title File (Some of the phrase cards make good titles) "The Runaway", "Enchanted Haircut", "The Trouble With Grownups" (Any intriguing titles of books in the library).
5. Intriguing phrases or titles used as stock stimuli, "The Feel Of Autumn", "Rain in November", "Memories of Another Grade".
6. Write a story you have heard.
7. Pretend you are an animal or another person and describe yourself. Tell one of your adventures.
8. "A space ship lands, someone emerges", How do you feel?
9. Suggest writing an autobiography of such things as "A Cloud","A Tadpole", "A Doll", or a character in literature.
10. Working cooperatively have a "Filmstrip" drawn and captioned by children.
11. Have children tell "tall tales" in which their imagination can run riot.

ON WRITING A STORY

1. Spend a period on "description"--using all senses.
2. Spend a period another day on "live verbs: "The horse pranced, bucked, stumbles, etc."
3. Another day work on descriptive adjectives.
4. Title -- or the happening -- "A Day in the Park".
5. Work on plot for a day or two.
    a. In reading group have them summarize a story and recognize "Plot".
    b. Outlining a story.
    c. Study sequence.
6. Suspense is an important ingredient.
    a. Read or tell a suspenseful story, then stop before the climax. Have them produce endings.
7. Work on characters -- real people with weaknesses as well as strengths.
    a. Describe the character -- how he looks.
    b. Show him in action -- what he does.
    c. Tell what he says.
    d. Show what other people think of him.
    e. Tell what he thinks about -- what goes on in his head.
    f. Why does he do and say what he does. (Read illustrative material and have pupils decide what reason was behind character's action).

Manatee County Program for the Intellectually Gifted

Developing Language Skills
through
EXPERIENCE BOOKS

1. Use a loose-leaf or spiral notebook.

2. Write the day of the week at the top of each page.

**3. Write something every night - even if it is only: "I watched T.V." or"I ate potatoes."

4. Write no more than two short sentences on a page. Always have a picture accompany the sentence. These can be drawn, cut from magazines or taken with a Polaroid camera.

5. If the experience requires more sentences, use more pages and pictures.

*6. Send the books to school every day.

*7. Write the sentences from the child's point of view using I with his or her name over it. (see examples)

8. Print the sentences using small and capital letters as needed.

9. Write the experience in the book during or right after it happens - if possible.

SECTION E

Checklists, Guides and Offerings
for
Gifted Programming

I. A Checklist for Locating Resources for Gifted Students

II. Topics for Discussion in the Gifted Child Program

III. Mini-Courses in the Manatee Gifted Program

A CHECKLIST FOR LOCATING RESOURCES FOR GIFTED STUDENTS

Gifted children need access to an array of persons, materials, equipment, ideas, and environments.

This checklist may be used as a guide in appraising and locating resources and opportunities that might be made available to gifted children and youth. It may be used as a starting point in planning individualized and small group instruction. It may suggest ways of proceeding in developing, improving, and evaluating instructional, guidance, and counseling programs for gifted children and youth.

1. Access to Persons

    1.1. Intellectual Peers

        ____ 1.11 Children.................
        ____ 1.12 Adults...................

    1.2 Exemplary Individuals

        1.21 Creative Persons..........

            ____ 1.211 Art................
            ____ 1.212 Music..............
            ____ 1.213 Literary...........
            ____ 1.214 Science............
            ____ 1.215 Social Science.....
            ____ 1.216 Business...........
            ____ 1.217 Industry...........
            ____ 1.218 Government.........

        ____ 1.22 Knowledgeable Persons....
        ____ 1.23 Inspirational Persons....
        ____ 1.24 Career-leaders..........
        ____ 1.25 Problem Solvers..........
        ____ 1.26 Problem Finders..........

    1.3 Empathetic Mentors

        ____ 1.31 Counselor................
        ____ 1.32 Community Sponsor........
        ____ 1.33 Other....................

    1.4 Resource Persons

        ____ 1.41 Forest Rangers...........
        ____ 1.42 Engineers................
        ____ 1.43 Physicians...............
        ____ 1.44 Teachers.................
        ____ 1.45 Military Personnel........
        ____ 1.46 Other.....................

2. Access to Material

    ____ 2.1 Books......................
    ____ 2.2 Magazines..................
    ____ 2.3 Scholarly Journals.........
    ____ 2.4 Newspapers.................
    ____ 2.5 Items used in..............
        biology
        chemistry
        physica and other laboratory work
    ____ 2.6 Materials needed...........
        to build experimental equipment
    ____ 2.7 Art materials:.............
        paints, plastic clay;
        portfolios, prints
    ____ 2.8 Realia.....................
    ____ 2.9 Films, filmstrips, charts..
        maps, blueprints, slides;
        diagrams
    ____ 2.10 Other

3. Access to Equipment

    ____ 3.1 Slide Projectors...........
    ____ 3.2 8 mm Projectors............
    ____ 3.3 Computing devices.........
        abacus, calculators,
        access to computer
    ____ 3.4 Tape Recorders............
    ____ 3.5 Telescopes, ...

sextants; surveying
and mapping equipment

____ 3.6 Cameras..................

____ 3.7 Meteorological equipment.

____ 3.8 Microscopes.............

____ 3.9 Viewers..................

____ 3.10 Other....................

Question: How can we apply a "Project Discovery" approach to isolated children?

4. Access to Environments

Factors which affect life and living

4.1 Social < static............
changing..........

____ 4.11 big city.................
____ 4.12 suburban.................
____ 4.13 small city...............
____ 4.14 rural....................

4.2 Economic

____ 4.21 Poverty area.............
____ 4.22 Affluent area............
____ 4.23 Average Economic Area....
____ 4.24 Places to work...........

4.3 Cultural

____ 4.31 Nationalities............
____ 4.32 Regions < USA............
Calif..........
____ 4.33 Religious................
____ 4.34 Racial...................
____ 4.35 Institutions of Higher Ed.

4.4 Ecological

____ 4.41 Ocean....................
____ 4.42 Desert...................
____ 4.43 River Valley.............
____ 4.44 Forest...................
____ 4.45 Mountain.................

4.5 Educational
____ 4.51 School...................
____ 4.52 Other....................

4.6 Much Freedom for Individuals vs. Many Restraints on Individuals

____ 4.61 Much Freedom..............
____ 4.62 Very Restrictive..........

4.7 Self-Extending & Self-Inhibiting

____ 4.71 Self-Extending............
Inhibiting............

5. Access to Ideas

5.1 About:
5.11 Oneself
____ 5.111 self concept........
____ 5.112 attitudes...........
____ 5.113 aspirations.........
____ 5.114 capabilities........

5.12 Nature of Man
____ 5.121 Individuals.........
____ 5.122 Groups..............

5.13 Nature of Human Institutions

5.14 Nature of Matter
____ 5.141 In Free State.......
____ 5.142 When Combined.......

5.15 Nature of Structures
____ 5.151 Components..........
____ 5.152 As Entities.........

5.16 Nature of Functions

5.17 Nature of Relationships....

5.18 Nature of Purpose..........

5.2 From:
____ 5.21 One's own ideation...

____ 5.22 Other persons-past & present
--Great Ideas of Manking..............
--Exemplary Creators in all fields......

____ 5.23 Human Institutions
--Educational........
--Social............
--Economic...........
--Political..........
--Religious..........

_____ 5.24 Books.................

_____ 5.25 Paintings............

_____ 5.26 Music................

_____ 5.27 Dance................

_____ 5.28 Plays................

_____ 5.29 Environment..........

_____ 5.210 Equipment - material systems & devices.....

_____ 5.211 Audio & Visual Media

6. Access to & Involvement in Experiences

6.1 With:

_____ 6.11 Persons....................
_____ 6.12 Groups ....
Social
Cultural
Economic
Political

_____ 6.13 Institutions...............
_____ 6.14 Environments...............
_____ 6.15 Materials..................
_____ 6.16 Equipment..................

6.2 For the Purpose of:

_____ 6.21 Extending awareness of--and generating new ideas about:

____ 6.211 Oneself
a. Capabilities.....
b. Aspirations......
c. Areas in need of improvement......
____ 6.212 Social Ideas, Theories, Institutions,etc....
____ 6.213 Political Ideas, Theories, Institution,etc...........
____ 6.214 Economic Ideas, Theories, Institution,etc...........
____ 6.215 Cultural Ideas, Theories, Institutions, etc.........
____ 6.216 Other factors affecting individuals & nations............
____ 6.217 Natural Environment.

6.22 Developing intellectual skills

____ 6.221 Seeing, formulating, & exploring alternative ways of thinking & of acting..........
____ 6.222 Acquiring disciplined thinking in logical problem solving....

6.23 Acquiring needed facts & evaluating what ideas, institutions, policies, theories, & actions are valid & what are not valid in terms of individual & societal needs & goals...

6.24 Becoming a more knowledgeable, creative, & humane human being......

TOPICS FOR DISCUSSION
IN THE GIFTED CHILD PROGRAM

1.0 Divergent Thinking

1.1 What would happen if by the year 2000 only 10 percent of the population had to work?
1.2 If everything in the world were free and available in unlimited supply, what would be the effect on people's behavior?
1.3 What if man will be able to live to 200 years of age?
1.4 What would life be like if we closed all of our schools for 20 years?
1.5 Life on other planets, flying saucers, and the like
1.6 What if brains could be transplanted?
1.7 What if the Battle of Gettysburg had turned the other way?

2.0 Social Concerns

2.1 Teenage drinking
2.2 Problems of "addiction"--cigarettes, alcohol, narcotics
2.3 LSD
2.4 Should mothers work?
2.5 Should women be drafted?
2.6 Objectives of incarceration for crime: punishment? rehabilitation?
2.7 Capital punishment
2.8 Welfare: eligibility and needs
2.9 What age for dating?
2.10 Drop voting age to eighteen?
2.11 Raise driving age to eighteen?
2.12 Conflict between values of adults and those of youth, and value conflicts between groups of young people
2.13 Will a woman ever be president of the United States?
2.14 Fads
2.15 Foreign aid versus poverty within the United States
2.16 Automation and attendant problems--will machines "take over"?
2.17 Causes of high taxes
2.18 Problems involved in eliminating slums
2.19 Medicare
2.20 Problems of the American Indian
2.21 Should a young person be punished for the rest of his life for one foolish act?

3.0 Scientific Explorations

3.1 Extrasensory perception
3.2 Hypnosis
3.3 Progress in medical science
3.4 Space race

4.0 Governmental Issues

4.1 One world government: Can mankind agree and end war?
4.2 The image of America abroad and the role of America in world leadership
4.3 Division of California into two states
4.4 Censorship
4.5 Candidates for governor; the governor's function

4.6 Vietnam and related problems
4.7 Governmental control versus individual rights
4.8 Is ours a true democracy?
4.9 Registration of Communists
4.10 Comparison between policies of republicans and thos of democrats
4.11 Watts riots
4.12 Political issues

5.0 Religious Man

5.1 What is the role of tangible proof in faith?
5.2 Predestination and free will
5.3 Astrology
5.4 Spiritual man

6.0 Psychological Issues

6.1 Stress from pressure for high scholastic grades
6.2 What is "being normal"?
6.3 Problems related to being the youngest, the oldest, or the middle member of a family of children
6.4 Brainwashing
6.5 Parents who are teachers
6.6 Causes of unusual behavior
6.7 Meaning of dreams
6.8 Individual differences
6.9 Meaning of group test scores; e.g., IQ
6.10 Personality--innate?--environmental shaped?
6.11 Possibility of changing (or controlling) human behavior through drugs
6.12 The "real you" and role-behavior--with parents, relatives, friends, and others
6.13 What is love?
6.14 Controlling behavior through reward rather than punishment
6.15 Mass hysteria--its influence on history
6.16 Manipulation of people by the culture
6.17 Why tests?
6.18 What is intelligence?

7.0 Educational Issues

7.1 The philosophy behind a scholastic grading system
7.2 Pursuit of knowledge, taking tests, striving for grades, pressure of homework, and choice of college
7.3 Characteristics of good teachers
7.4 Looking ahead to high school
7.5 Grouping for learning--beneficial?
7.6 Racial integration of schools through bussing students
7.7 Role of the school in rules and discipline; e.g., policies about boys' long hair and other fads
7.8 "Good" books
7.9 Evaluation of television shows
7.10 Merit pay for teachers; problems of evaluation
7.11 The 12-month school year
7.12 Adjustment to junior high school setting

8.0 Moral Concerns

- 8.1 Cheating: Should people inform on cheaters?
- 8.2 Honesty
- 8.3 Gambling

9.0 Philosophical Concerns

- 9.1 Is man born human?
- 9.2 How can fact and truth be discerned?
- 9.3 Conscience: What is it?
- 9.4 Existentialism
- 9.5 Reality--how do we know that really exists?
- 9.6 Relationship of time to human experience
- 9.7 Does the man make history or does history make the man?
- 9.8 Luck--is there such a thing?
- 9.9 What is patriotism?
- 9.10 What is freedom and what is privilege?

10.0 Miscellaneous Topics

- 10.1 "Pay TV"
- 10.2 Controversial issues related to causes of the Civil War
- 10.3 The French and Indian War

Curriculum Offerings
for
Academically Talented Program

The content of the course offerings for academically talented students is selected from the mini-courses listed below. The class membership is limited to 10 students and the student contact time per class varies from 30 minutes per week to 180 minutes per week. The length of the class period depends upon the ages and grade levels of the students, the availability of class space, the school's daily schedule of activities, the decision of the principal, classroom teachers and the itinerant teacher of the gifted.

The mini-courses listed below were selected on several criteria: frequency of use in other state programs for academically gifted, the interest of the students, the interest of the itinerant teacher, the availability of resource materials for the mini-course, suitability of the course for the time period allotted, timeliness of the mini-course, the lifetime usefulness of the course offering, and its relativity to the academic curriculum of the regular school program. Creative and critical thinking is stressed in all offerings. A pre-test and post-test is administered for each unit of study in order to note growth in learning.

Mini-courses

1. Research Tools

   The National Library Skills Test is given before advanced library and research skills are taught. Student contracts are used to permit in-depth study on selected topics.

2. Thesaurus: Words, to you.

   Students are instructed in the use of the beginning and intermediate Thesaurus preparatory to creative writing activities.

3. Creative Writing

   Students learn to expand and enrich their sentences in original stories. Poetry forms are studied and the skills of writing haiku, cinquains and quatrains are taught.

4. Metric System

   The use of the metric system is taught through manipulative math materials.

5. Noting the Newspaper

Local daily newspapers are studied for their story coverage, their editorials, their classified ads, their comics, and their weather reporting.

6. Chess by Notation

Skills in chess are learned through games of the masters.

7. Tangrams

The ancient 7-piece puzzle is used to develop eye and finger dexterity and creative puzzle solving.

8. Deep Thoughts from Aesop

Standard Aesop fables are read, discussed, dramatized and used in value clarification.

9. Mysteries of Mythology

Ancient mythological characters, the superstitious nature of ancient men, and mythology in classic art is studied.

10. Film Fun

Students are taught to make their own film strips, slides, and movies.

11. Torrance Activity Games

Activities suggested by E. Paul Torrance, Joseph Renzulli, and J. P. Guilford are used to stimulate verbal and figural creative thinking.

12. Word-a-Day

A daily vocabulary word sometimes used in television, radio, or the newspaper.

13. How-To-Study

Skills of outlining and organizing a book report or theme.

14. Patriotism

Focus is made on bi-centennial activities.

15. Art Appreciation

A study is made of famous paintings and sculpture in local and world museums.

SECTION F

Games Gifted People May Play

I. Kalah

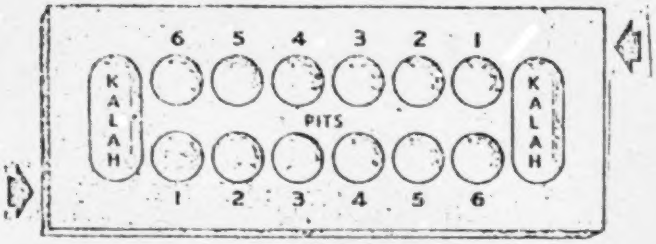
II. Chess

TAG PROJECT

KALAH

A Math Concept Game

PLAYING FIELD



For beginners the game is best for two players with the board resting crosswise between them. Each player controls a row of round PITS on his side and the capsule-shaped bowl at his right callled his KALAH. The object of the game is to get the larger number of counters (playing pieces) in one's own KALAH.

The number of counters used depends upon the time available and age of players. For a short game and for youthful players three counters are placed in each PIT. Adults use four, five or six counters, six making the most interesting game.

The first player is selected by lot or agreement and alternates in succeeding games. Each player empties any of his PITS deemed advantageous, and, leaving it empty, distributes counters one by one around to the right as far as they go. If there are enough to reach beyond his own KALAH, they are distributed one by one into the PITS on the opposite side and then belong to the other player. The only place ever skipped is the opponent's KALAH. Once in a KALAH, the counters remain until the end of the game.

The method of play is distributing one by one around to the right, subject to two simple rules. 1. If the last counter lands in your own KALAH, you have another turn. By planning to have the right number of counters in two or more PITS, it is possible to have several turns in succession. 2. If the last counter lands in an empty PIT on your own side you capture all of the counters in the PIT opposite, and place them, together with the one making the capture, in your own KALAH. A capture ends your turn.

In reaching an empty PIT on your own side, it makes no difference whether you move a single counter one space, or distribute all around the board and back to your own side.

Colors have no meaning except to make counting easier. Counters may be counted in any PIT on either side at any time.

The game ends when all PITS on one side are empty. The first one out usually loses because he receives none of the counters left on the other side. They go into the KALAH on the side of the player who has been able to save them. This is one the exciting features of the game. A good player will force the other to distribute and play out. On the other hand, it is difficult to hold on to a lot of counters against a skillful player who tries to force their distribution.

The score is the number captured form the opponent. The score is quickly counted by restoring the original number of counters in each PIT. For instance, if one side has four left over, his score is four to nothing. A series of games ends with a score of forty on one side. In tournaments, the eliminating score is also forty.

PLAYING CHESS BY NOTATION

from Reuben Fine's Chess The Easy Way - Rules
for opening, middle and end game strategy.

Rules for Opening Game Strategy

1. Open with either the King's pawn or the Queen's pawn.
2. Wherever possible, make a good developing move which threatens something.
3. Develop knights before bishops.
4. Pick the most suitable square for a piece and develop it there once and for all.
5. Make one or two moves in the opening, not more.
6. Do not bring your Queen out early.
7. Castle as soon as possible, preferably on the King's side.
8. Play to get control of the center.
9. Always try to maintain at least one pawn in the center.
10. Do not sacrifice without a clear and adequate reason.

Rules for Middle Game Strategy

1. Have all your moves fit into definite plans. Do not play aimlessly.
2. When you are ahead in materials, exchange as many pieces as possible, especially Queens.
3. Avoid doubled, isolated and backward pawns.
4. In cramped positions free yourself by exchanging.
5. Do not expose your own King while the Queens are still on the board.
6. All combinations are based on a double attack.
7. If your opponent has one or more pieces exposed look for a combination.
8. To attack the King you must open a file (or less often a diagonal) to gain access for your heavy pieces (Queen and rooks).
9. Centralize the action of all the pieces.
10. The best defense is a counter-attack.

Rules for End Game Strategy

1. To win without pawns you must be at least a rook or two pieces ahead.
2. The King must be active in the end-game.
3. Passed pawns must be pushed.
4. The easiest endings to win are pure pawn endings.
5. If you are only one pawn ahead, exchange pieces, but not pawns.
6. Do not place your pawns on the same color as your bishop.
7. A bishop is better than a knight in all but blocked pawn positions.
8. It is worth giving up a pawn to get a rook on the seventh rank.
9. Rooks belong behind passed pawns.
10. Blockade passed pawns with the King.

Things to remember:

1. A file is a vertical series of squares. There are 8 files.
2. A rank is a horizontal series of squares. There are 8 ranks.
3. A diagonal is a series of adjacent squares of the same color going from one edge of the board to the other. There are 26 diagonals.
4. Symbols: K=King; Q=Queen; R=Rook; B=Bishop; N (sometimes Kt)=Knight; P=Pawn.
5. O-O=Castle on the King side; O-O-O=Castle on the Queen side; ?=Weak move; !=Excellent move; x=Capture.

Chess Training Games

from Chess Openings: Theory and Practice
by I. A. Horowitz

I. Giuoco Piano (Game 1) 35 moves - Mate (white)

	White	Black		White	Black		White	Black
1	P-K4	P-K4	13	BxB	NxB	25	RxP	K-N1
2	N-KB3	N-QB3	14	R-K1	P-KB3	26	R-N7	K-R1
3	B-B4	B-B4	15	Q-K2	Q-Q2	27	Q-R4	KxR
4	P-B3	N-B3	16	QR-B1	P-B3?	28	Q-R7	K-B1
5	P-Q4	PxP	17	P-Q5!	PxP	29	Q-R8	K-K2
6	PxP	B-N5	18	N-Q4	K-B2	30	Q-N7	K-K1
7	N-B3	P-Q4	19	N-K6	KR-QB1	31	Q-N8	K-K2
8	PxP	KNxP	20	Q-N4	P-KN3	32	Q-B7	K-Q1
9	O-O	B-K3	21	N-N5	K-K1	33	Q-B8	Q-K1
10	B-KN5	B-K2	22	RxN	K-B1	34	N-B7	K-Q2
11	BxN	QBxB	23	R-B7!	K-N1	35	Q-Q6 mate	
12	NxB	QxN	24	R-N7!!	K-R1			

II. Two Knights' Defense (Game 7) 31 moves - Mate (black)

	White	Black		White	Black		White	Black
1	P-K4	P-K4	11	P-KB4	B-Q3	21	BxN	B-KN5
2	N-KB3	N-QB3	12	P-Q4	O-O	22	P-R5	Q-R2
3	B-B4	N-B3	13	O-O	P-B4	23	Q-R4	B-K7
4	N-N5	P-Q4	14	P-B3	R-N1	24	R-K1	N-N5
5	PxP	N-QR4	15	N-R3	PxP!	25	P-R3	Q-B7
6	B-N5	P-B3	16	N-N5	RxN!	26	B-Q2	B-B4
7	PxP	PxP	17	BxN	Q-N3	27	BxP	RxB
8	B-K2	P-KR3	18	P-QR4	P-Q6	28	Q-K8	K-R2
9	N-KB3	P-K5	19	K-R1	P-R3	29	QxR	QxP!
10	N-K5	Q-B2	20	N-B4	NxN	30	KxQ	B-B6
						31	K-B1	N-R7 mate

III. King's Gambit (Game 7) 26 moves - Black resigns

	White	Black		White	Black		White	Black
1	P-K4	P-K4	10	P-Q4	B-Q3	19	B-K5	P-QN3
2	P-KB4	PxP	11	N-K4	N-Q2	20	BxN	NxB
3	N-KB3	B-K2	12	NxB	PxN	21	N-K5	B-K3
4	B-B4	N-KB3	13	BxP	N-N3	22	B-R6	B-B1
5	P-K5	N-N5	14	B-Q3	P-Q4	23	B-N5	P-QR3
6	N-B3	P-Q3	15	O-O	O-O	24	B-B6	R-N1
7	PxP	BxP	16	P-QN3	N-B3	25	NxP!	B-N5
8	Q-K2	Q-K2	17	QR-K1	B-N5	26	RxN!	Resigns
9	QxQ	BxQ	18	R-K7	N/N-Q2			

IV. Lopez (Game 21) 28 moves - White resigns

	White	Black		White	Black		White	Black
1	P-K4	P-K4	10	B-K3	O-O	19	Q-B1	NxP
2	N-KB3	N-QB3	11	P-Q4	B-N3	20	PxN	RxN
3	B-N5	P-QR3	12	PxP	PxP	21	Q-N2	RxNP
4	B-R4	P-QN4	13	BxB	PxB	22	R-Q3	B-K3
5	B-N3	B-B4	14	Q-K2	N-R4	23	R-B3	Q-K2
6	P-B3	P-Q3	15	QN-Q2	NxB	24	R-N3	P-N3
7	P-KR3	Q-B3!	16	PxN	N-N3	25	K-R1	K-R2
8	P-Q3	P-R3	17	N-R2	R-Q1	26	N-B3	BxNP
9	O-O	KN-K2	18	KR-Q1	N-B5	27	P-R4	R-Q1
						28	P-R5	R-Q8
							Resigns	

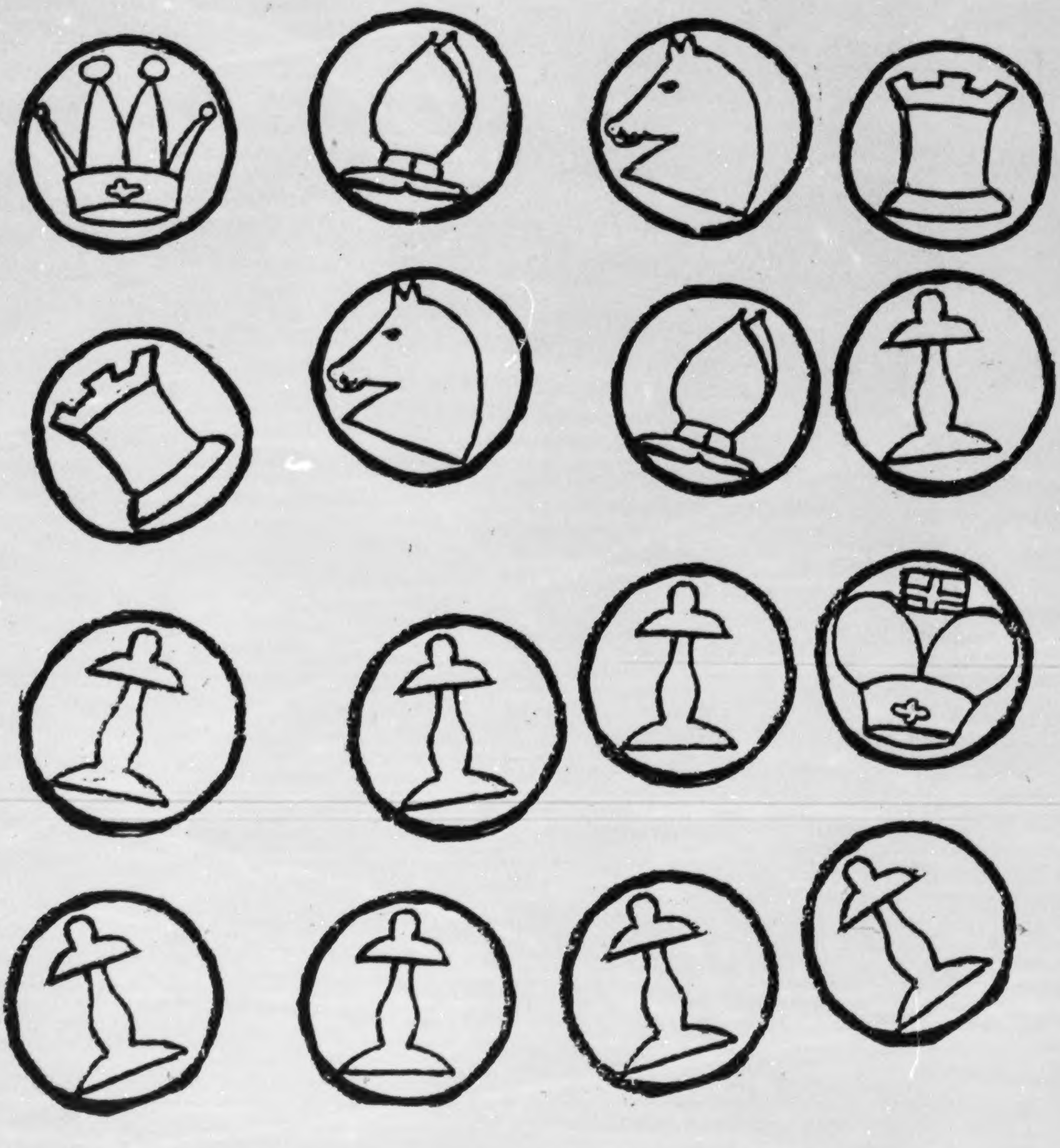
V. Sicilian Defense (Game 12) Draw after 46 moves

	White	Black		White	Black		White	Black
1	P-K4	P-QB4	16	PxP	PxP	31	B-B4	R-Q1
2	N-KB3	N-QB3	17	Q-Q3	P-N5	32	R-B7	R-Q2
3	P-Q4	PxP	18	N-Q5	BxN	33	R-B8	R-B4
4	NxP	P-KN3	19	PxB	Q-R4	34	R-R8	R-R2
5	P-QB4	B-N2	20	Q-B4	R-N4	35	R-N8	R-N2
6	B-K3	N-B3	21	B-Q2	KR-N1	36	R-R8	R-R2
7	N-QB3	N-KN5	22	Q-B8	B-B1	37	R-N8	R-N2
8	QxN	NxN	23	Q-Q7!	R/4-N2	38	R-R8	Q-Q2
9	Q-Q1	P-K4	24	Q-N4	P-B4	39	Q-K3	R-B1
10	B-Q3	P-Q3	25	Q-R3	QxQP	40	RxR	QxR
11	O-O	O-O	26	B-K3	N-N4	41	RxP	B-K2!
12	R-B1	B-K3	27	KR-Q1	Q-B2	42	P-KR3	Q-B6
13	P-QN3	P-QR3	28	B-Q2	P-Q4	43	Q-K2	Q-QB3
14	B-N1	R-N1	29	B-Q3	P-K5	44	R-R5	R-Q2
15	K-R1	P-QN4	30	BxN	RxB	45	Q-B4	QxQ
						46	PxQ	Draw

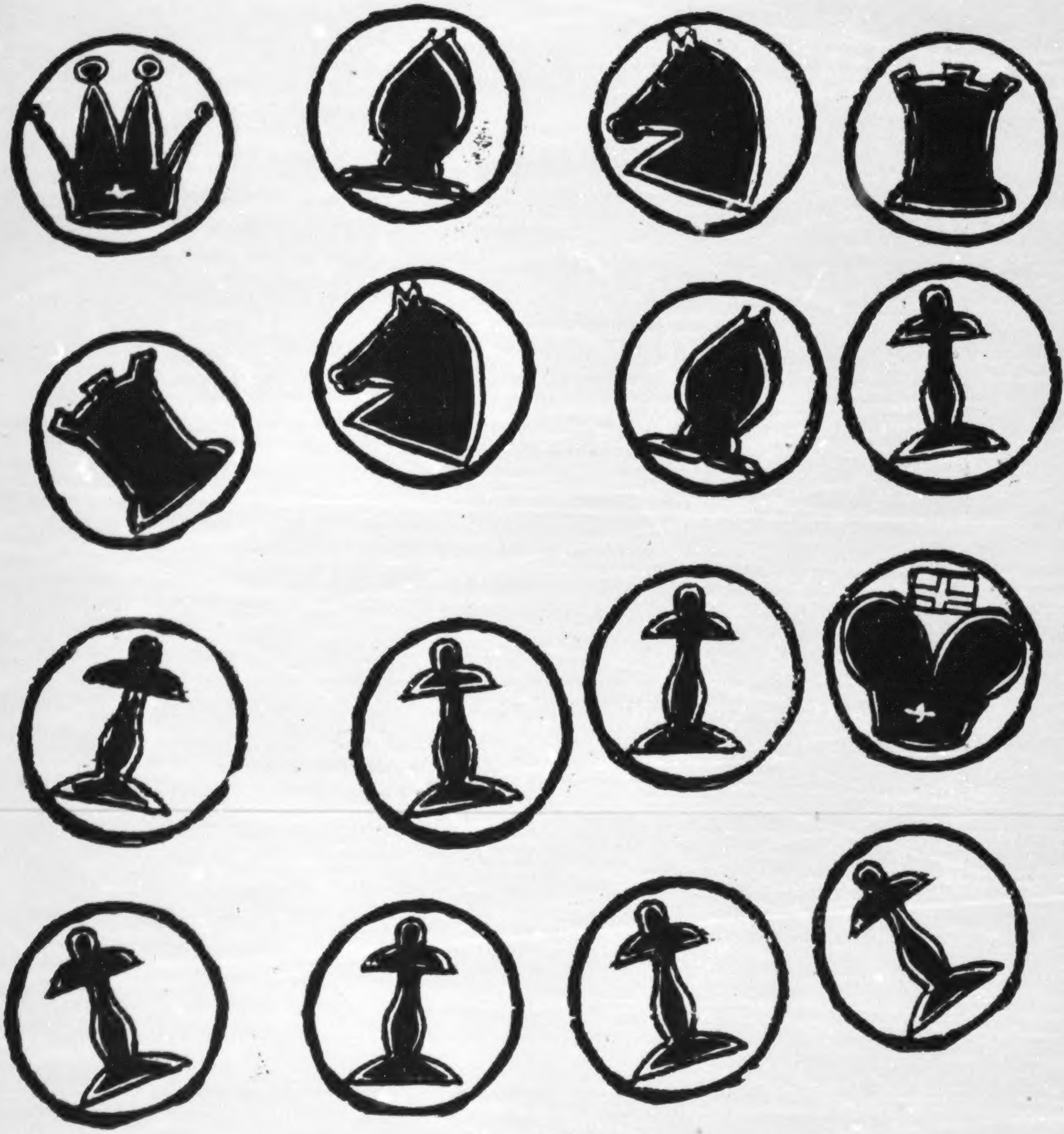
VI. Alekine's Defense (Game 12) Draw after 36 moves

	White	Black		White	Black		White	Black
1	P-K4	N-KB3	13	N-K2	N-Q2	25	K-B2	RxP
2	P-K5	N-Q4	14	O-O	NxP!	26	RxR	KxR
3	P-QB4	N-N3	15	QxN	B-B5	27	K-K3	K-K3
4	P-B5	N-Q4	16	QxQ	RxQ	28	K-K4	P-KN3
5	B-B4	P-K3	17	P-Q3!	B/5xQP	29	P-QN4	P-KR4
6	N-QB3	P-Q3	18	R-Q1!	BxN!	30	P-N3	K-B3
7	NxN	PxN	19	P-Q7	R-Q1	31	P-KR3	K-K3
8	BxP	P-QB3	20	B-N5	BxR	32	P-N4	P-N3
9	BxP	KxB	21	RxB	B-K2!	33	K-Q4	K-B3
10	BPxP	Q-K1	22	BxB	K-B2	34	P-QR4	K-K3
11	Q-B3	K-N1	23	BxR	RxB	35	K-K4	K-Q3
12	Q-K3	B-K3	24	P-B4	K-K2	36	P-R5	K-K3
							Draw	

WHITE CHESSMAN FOR YOUR MAKE-IT-YOURSELF SET



BLACK CHESSMAN FOR YOUR MAKE-IT-YOURSELF SET



SECTION G

Good Things for Teachers to Know

I. What Should Teachers Know About Anecdotal Records?

II. 65 Ways to Say "Good for You"

WHAT SHOULD TEACHERS KNOW ABOUT ANECDOTAL RECORDS?

I. Definitions, Types, and Characteristics: What Are They?

A. Definitions:

1. "A record of some significant item of conduct, a record of an episode in the life of a student: a word picture of the student in action; the teacher's best effort at taking a word snapshot at the moment of the incident; any narrative of events in which the student takes such a part as to reveal something which may be significant about his personality." Randall
2. "A specialized form of incidental observation. It is a description of the child's conduct and personality in terms of frequent brief, concrete observations of the pupil." Strang
3. "Anecotes are descriptive accounts of episodes or occur occurences in the daily life of the student." Brown & Martin
4. "A simple statement of an incident deemed significant with respect to a given pupil." Zahn
5. "Descriptions of actual behavior taking place in situations noted by the instructor, in contrast with rating scales which provide records only of the summary interpretations of the behavior observed." Taylor
6. "A specialized form of incidental observation... It aims to be an accurate record of some significant bit of behavior, a record of any event in which the student takes part in such a way as to reveal something that might be significant about his personality." McCormick

B. Types and Examples:

1. Simple recording of item of conduct; "Fussed with girls about place at table. Asked teacher questions all day that she knew the answers to. Chewed the edges of a library book. When a little girl suggested that they walk through the halls quietly, Juanita hit her and said she wouldn't have anyone "Bossing" her. She again wrote her spelling words wrong."
2. Observation with interpretation: (a) Observation - "George did part of a motor experiment today which the instructions specifically stated that the instructor must be present. George sought the aid of a student instead. He pulled the switch promptly and avoided trouble." (b) Interpretation - "It should be noted that he had the presence of mind to save the situation. He goes ahead by himself too much, without regard to instructions."
3. Anecdote accompained by a recommendation: (a) Anecdote - "Henry stopped after class today and gave me an opportunity to lead him to say that he felt he was not doing himself justice because he did not know how to take part in discussions effectively." (b) Treatment Recommended - "I told him that I had been aware from his attitude that he was in the habit of following the trend of thought in the discussion. I advised him, when he was studying to pick out one or two points each day which he definitely planned to bring up and discuss in class."

C. Characteristics of a Good Anecdotal Record:
(1) Objective - a clean word picture. (2) Subjective - limited to a center of attention and subordinates inconsequential details, (3) Raw data, (4) Written so as to be understood by other others, (5) The anecdote is often an item whose importance depends upon cumulative weighing.

II. Purpose: Why Keep Them?
- A. To furnish a variety of descriptions about students in specific and diverse situations.
- B. To substitute, for vague generalizations about students, specific exact descriptions of behavior.
- C. To stimulate teachers to contribute to the records of students in order that they may be helped to make optimum progress under the best possible conditions.
- D. To contribute towards understanding the basic personality pattern which may be revealed over a period of time under varying conditions.
- E. To encourage self-analysis by students by providing factual material for mutual understanding and counseling.
- F. To afford qualitive data to supplement and assist in the interpretation of various quantitative records of achievement.

III. Functions: To What Uses Are They Being Put?
- A. Benefiting the child by treating him as a developing individual with psychological, social, and personal needs.
- B. Increasing the teacher's understanding of the child, and giving her skill, insight, sympathy, powers of observation, and of evaluating.
- C. Inducting students into student teaching and for placement.
- D. Adding the guidance and remedial program of the school.
- E. Studying the character development of children.
- F. Studying typical children, as in a correctional school.
- G. Grading children, not with letters, but with statement and paragraph grades.
- H. Improving and reconstructing the school curriculum through emphasis on the individual approach.
- I. Supplying illustrative material for text books and other literature essential for professional progress.

IV. Drawbacks: Have Anecdotal Records Any Weaknesses?
- A. Difficulty in observing and recording what the child is actually doing in the context of what has led up to the act and what is to follow.
- B. Distinguishing the facts of observation from an interpretation of these facts.
- C. Danger of teacher's biases or subjective approach coloring which facts are recorded and the manner of recording.
- D. Problem of the recording taking too much of the teacher's time and energy.
- E. Difficulty in that these records are not susceptible to statistical treatment.

V. Mechanics and Analysis: Who Keeps Them and How?

- A. The average length of anecdote in 23 words; within a median range of 16 words: and a range of 1 to 315 words.
- B. Anecdotes of optimum value must be gathered from a large number of situations and by a considerable number of people.
- C. Approximately 60% of the teacher's time is involved in thinking about the student and what is to be written; 40% in the actual writing.
- D. As the teaching load increases, the number of anecdotes per potential class hour of contact tends to decrease.
- E. Approximately half of the anecdotes studied concern behavior other than classroom achievement.
- F. Anecdotes should be coordinated into a Behavior Journal and filed in the office of the person with the major responsibility for counseling the student.

VI. Their Interpretation: After They Are Recorded, What Then?

- A. Background information should be sought which affords insight into the behavior of the child and which shows the relationship of the information to the early use of the anecdotal record.
- B. The reptition of anecdotes of the same content is important.
- C. It is doubtful whether a record can be very complete without range in an extended number of situations.
- D. It is desirable to have a periodic summation, synthesis, and interpretation of behavior previously reported.
- E. It is necessary to consider the reasons for the disappearance from the record of behavior previously reported.
- F. It is important to recognize the deviations of the individual from his usual patterns of behaviors.
- G. Inconsistencies in the behavior patterns of the individual, when discovered, make it possible to find personality conflicts in the individual.
- H. There should be sensitivity to reported behavior which gives uniqueness and individuality to the student.

VII. Evaluation: Is It Worth The Effort?

- A. Research as to the value of anecdotal records quantitatively was made at Rochester. (See Section V of this paper for some of the findings.)
- B. Wrightstone considers the anecdotal record to be a qualitative observational technique; and that a comparsion of the judgements of two groups of qualified raters based on anecdotal records shows close agreement in appraising the recorded behavior.
- C. Hamalinen made a study in which he compared the correlation between the anecdotal records and the test scores of the pupils.

INSTRUCTIONS FOR BEHAVIOR JOURNAL

INCIDENTS TO BE RECORDED:

1. Incidents which give a sample of the typical behavior of the child.
2. Incidents which are so typical as to cause comment.
3. Incidents which furnish guides as to necessary next steps.
4. Evidences of excessive day-dreaming, general apathy, and verbalizations which are indicative of his attitudes.
5. Any general tendency to be over active, withdrawn, fearful, to speak in a shrill voice, should be noted, even though there appear to be no particular incident with a date.
6. Persistent mannerisms such as: thumb sucking, nail biting, blinking of the eyes, unusual movements of the body or limbs.
7. Evidences of improvement or deterioration.
8. Changes in the child's home life. (such as arrival of a sibling)
9. Types of pressure the parents bring to bear on the child
10. Notes on illnesses, eating, sleeping habits, evidence of fatigue.
11. Records of telephone calls, conferences and discussions.
12. Things about the child or school which cause the parents concern.

FORM OF THE BEHAVIOR JOURNAL:

1. Identifying data concerning the child at the top of the page. (Name, age, date)
2. Paper with center vertical ruling.
3. Record incidents describing the situation at time of incident on left side of the page.
4. Record response of teacher, aide, etc., comments and/or interpretation of the behavior on the right side of the page.
5. Indicate or identify the recorder, or person reporting the incident.

USES OF THE BEHAVIOR JOURNAL:

1. Recurring problems indicate points at which parent education is needed.
2. Record serves as guide for curriculum planning.
3. Journal records alert teacher to need for consideration of individual children's problems.
4. Records may show persistent unusual behavior of a child indicating a need for special diagnostic study.
5. Records may indicate a child's strengths as well as areas of weakness.
6. Journal records provide helpful data for use of specialist to whom a child may be referred.
7. Records of a child's behavior over a period of time can be extremely helpful in conferring with parent regarding his child's progress and/or special needs.

From: Olson, Willard C. Child Development. Boston: D. C. Health and Company, 1959, Appendix D. pp. 467-473.

65 WAYS TO SAY "GOOD FOR YOU"

By Edward S. Kubany

Everyone knows that a little praise goes a long way in any classroom. But "a little praise" really needs to be something more than the same few phrases repeated over and over ad nauseum. Your students need more than the traditional "Good", "Very good", and "Fine", if encouragement is in the cards. Here are some additional possibilities:

That's really nice.
Thank you very much.
Wow!
That's great.
I like the way you're working.
Keep up the good work.
Everyone's working so hard.
That's quite an improvement.
Much better.
Keep it up.
It's a pleasure to teach when you work like this.
Good job.
What neat work.
You really outdid yourself today.
This kind of work pleases me very much.
Congratulation, you only missed ______.
That's right! Good for you.
Terrific.
I bet your Mom and Dad would be proud to see the job you did on this.
Beautiful.
I'm very proud of the way you worked (are working) today.
Excellent work.
I appreciate your help.
Very good. Why don't you show the class?
Thank you for (sitting down, being quiet, getting right to work, etc.)
Marvelous.
Groovy.
Right on.
Far out.
You make it look easy.
That's coming along nicely.
For sure.
Sharp.
That looks like it's going to be a great report.
I like the way Tom is working.
My goodness, how impressive.
You're on the right track now.
That's "A" work.
John is in line.
Mary is waiting quietly.
Dickie got right down to work.
Ann is paying attention.
It looks like you put a lot of work into this.
That's clever.
Very creative.
Very interesting.
Good thinking.
That's an interesting way of looking at it.
Now you've figured it out.
Clifford has it.
That's the right answer.
Now you've got the hang of it.
Exactly right.
Super.
Superior work.
That's a good point.
That's a very good observation.
That certainly is one way of looking at it.
That's an interesting point of view.
Thank you for raising your hand. Charles, what is it?
Sherrie is really going to town.
You've got it now.
Out of sight.
Nice going.
I like the way Bill (the class) has settled down.

LET THIS BE OUR DREAM FOR OUR CHILDREN:

That they may always know,
In the brief and fleeting years of childhood,
The warmth of our unfailing love -
For only thus shall they learn to love.

LET THIS BE OUR DREAM FOR OUR CHILDREN:

That they may always, even in their youngest years,
Receive our full respect as persons -
For only thus shall they gain self-respect,
And learn respect for others.

LET THIS BE OUR DREAM FOR OUR CHILDREN:

That they may always find us, their elders,
Seeking to preserve and to create things of enduring beauty -
For only thus shall they learn to love the beautiful, and to live beautifully.

LET THIS BE OUR DREAM FOR OUR CHILDREN:

That they may even find us, their elders,
Open and receptive to new truths,
And eager in their quest for knowledge -
For only thus shall they become lovers of and seekers after truth.

LET THIS BE OUR DREAM FOR OUR CHILDREN:

That, day by day, they may find themselves with our help, more and more free.
To make their own mistakes, and profit by them;
To discover their own values, and grow by them;
To reject our ways and adopt their own, and mature by so doing -
For only thus shall they become better persons than we have been.

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LET THIS BE OUR DREAM FOR OUR CHILDREN!

Humbly, hopefully, devotedly,
We dream great dreams for our children:
And may ours be the sobering knowledge
That only through our deeds
Can all these dreams come true.

by William D. Hammond

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